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ABSTRACT

This teacher's guide contains a complete list of goals, behavioral objectives, activities, materials and equipment, and tests needed for implementing a metric education program in grades K-8. Ten broad goals are listed and each behavioral objective is referenced to one of these. The behavioral objectives are also referenced to grade levels and to the activities list. The activities are referenced to grade levels, to the materials list and to the goals. The materials and equipment are referenced to a list of publishers, producers, and suppliers along with the costs and dates of publication. The materials and equipment list is coded for teacher reaction, the code being from 1 through 5 for each of the following levels: primary, intermediate, junior high, adult education, senior high, and teachers. The criterion-referenced test items are referenced to goals, grade levels and behavioral objectives. The tests are multiple choice but are designed for interview testing at the lower levels. The number of choices range from two at the lower levels to four at the upper levels. (MP)

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METRICS THE MEASURE OF YOUR FUTURE

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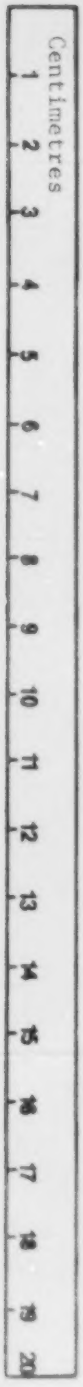

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METRICS IN THE K-8 CURRICULUM

A Multidisciplinary Guide To Transition

For use in the Winston-Salem/Forsyth County School System

Marvin Ward, Superintendent
Raymond Sarbaugh, Associate Superintendent
C. Douglas Carter, Assistant Superintendent of Instruction

ESEA Title III - Grant No. 43-74-259
Division of Development, North Carolina Department of Public Instruction

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METRICS IN THE K-8 CURRICULUM:

A Multidisciplinary Guide to Transition

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There are so many people who have contributed so generously to our guidance and support during the first half of this project that space will not permit an attempt to list them. We must, however, express special gratitude to some members of the State Department of Public Instruction: in the Division of Development, Dr. Betty Jean Faust and Mrs. JoAnne Drane; in the Division of Mathematics, Dr. Robert Jones, Dr. Cleo Meek, Miss Nedra Mitchell, and Mr. John Ogle. We also owe special thanks to Dr. Joan Troy of ACE Consultants at Chapel Hill for development of material evaluation forms and to Dr. Clifford Tremblay of the Center for Individualized Instructional Systems in Durham for an editorial review of student tests.

We are enormously endebted to the members of our Metric Education Project Advisory Council under the leadership of Mr. Joe Ridgill, engineer with Western Electric, and particularly to the Curriculum Subcommittee:

Chairman: Dr. John Litcher, Wake Forest University
Dr. Norma Bernhardt, Salem College
Dr. Nathan Simms, Winston-Salem State University
Dean Paul Apple, Forsyth Technical Institute
Dr. Joe Dodson, Mathematics Coordinator
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Dr. Earl Sandefur, Staff Development Coordinator
Mrs. Doris Jones, Teacher, Jefferson Junior High
Mr. Bob Severs, Federal Programs Coordinator

The never-failing responsiveness of these committee members to our many needs made our work possible and most often pleasant. Without their assistance we could not have started.

We appreciate the many ways in which our local administration has supported our work. We have benefited, too, from the reactions and suggestions of the principals and the Metri Contact Teachers in the non-project K-8 schools, including a number of private and parochial schools in Forsyth County.

We must acknowledge, too, the great volume of work done by the two secretaries who have served our project: Mrs. Phyllis Marth throughout the planning stages and preliminary drafts, and Mrs. Cecilia Mason through the final typing of this version. Their assistance has gone far beyond the anticipated bounds of office employment and rates a special tribute.

--Violet Daniel
Metric Education Project Director

PROJECT SCHOOL PERSONNEL

Wiley Laboratory School (7-8)

Principal - Wise, Mr. Jay
Asst. Principal - Hairston, Mr. W.R.
Art - Giandonato, Mr. Gerald
Schwall, Mrs. Julie
Band - Shelton, Mr. John
Chorus - Weiss, Mrs. Ann
Drama - Warfford, Mrs. Jane
Exploratory Shop - Mock, Mr. Benny
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Jones, Mrs. Sharron (a)
Chappell, Mrs. Brenda (b)
Homemaking/Health - Howell, Mrs. Gail
Language Arts - Corpening, Mrs. Janet
Dice, Mrs. Kathryn
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Whicker, Mrs. Karen (a)
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Roberts, Mr. Harry
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Chambers, Mrs. Alicia (b)
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Brunson Elementary School (K-6)

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Asst. Prin. - Bradshaw, Miss Louise
K - Leak, Mrs. Vermal
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McSwain, Mrs. Betty
Wyatt, Mrs. Imogene (b)
2 - Haith, Mrs. Ruth
Hartman, Miss Nell
Reid, Mrs. Linda
Robinson, Mrs. Audrey
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Hays, Mrs. Loretta
Morgan, Mrs. Annie Laurie
Morris, Mrs. Jacqueline
Morrison, Mrs. Naomi
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Richardson, Mrs. Judy
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McCoy, Mr. Earl
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Speech - Humphrey, Mrs. Catherine
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Shelton, Mr. John
Physical Ed. - Lloyd, Mrs. Sara
Librarian - Pelech, Mrs. Betty

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Baron, Mr. Vernon (b)
Media Center - Russell, Mrs. Carmelle

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Notes to the Reader:

Development of the content of this volume has been the direct responsibility of the staffs of the two project schools:

Brunson Elementary School (K-6)	Wiley Laboratory School (7-8)
155 North Hawthorne Road	1400 Northwest Boulevard
Winston-Salem, N.C. 27104	Winston-Salem, N.C. 27104

The Statement of Philosophy represents the common base from which to proceed; the materials that follow are not presented as all inclusive. Sequencing of learning skills and placement of behavioral objectives and activities is based on judgments of classroom teachers (the student enrollment includes a cross-section of county population). Coding of materials and equipment resulted from ordinary classroom use, not always comparable from item to item. Student tests in Section VIII were developed by teachers in grade-level groups in the second year; they have had some tryouts in non-project schools and will be part of our student progress evaluation program throughout the remainder of the project.

The metre, litre, and tonne spellings were chosen as consistent with an international effort toward uniformity and a feeling that this preserves the historic importance of the French nation in the development of the system. Both spellings may be used in our schools, since both are in some excellent materials now available to teachers. The weight-mass problem will not be allowed to overshadow the primary issue, which is that metric units be used.

STATEMENT OF PHILOSOPHY

Now that the International System of Units is becoming the primary system of measurement in the U.S., it is essential that metric education become a part of our public school curriculum. Since students will be graduating into a metric world, they should be equipped both intellectually and attitudinally to participate as effective citizens in an increasingly complex international society. Such preparation must include the new language of metrics. We believe that an integrated approach, utilizing the entire school curriculum, will provide the base for a broad and sequential framework which encourages students to apply metric knowledge to everyday experiences. We believe all learning takes place by proceeding from concrete involvement to abstract understanding. And we believe that any adequate program must anticipate varying individual maturity and performance levels and provide for useful evaluation.

BROAD GOALS (Middle digit of objectives number)

Consistent with his developmental level, the student shall be able:

1. To know the language and symbols of the metric system and to communicate readily and effectively with acceptable form and style.

2. To apply the various relationships within the metric system.

3. To classify, order and compare on the basis of measurement attributes.

4. To estimate and measure length, area, volume, capacity, mass and temperature using appropriate instruments with metric scales.

5. To perform mathematical, scientific, and other operations that involve the use of metric measures.

6. To solve problems in his daily activities, at school and away, that involve metric measurement.

7. To be aware of the historical background of the change to metrics.

8. To appreciate the simplicity, consistency and efficiency of the metric system.

9. To perceive some of the economic, social and philosophic implications of world-wide adoption of a common measurement language and system.

0. To relate metric measures to those of other systems when he must interpret mixed data.

NOTE: The last goal is numbered zero as an indication that conversion is not a specific goal of this curriculum; conversion will be taught only when a particular need arises and never as an end in itself. The awareness that mixed data can be reconciled should be developed through the most generalized comparison consistent with the immediate task.

LEVEL K BEHAVIORAL OBJECTIVES

K.1.1 The student will pronounce the words: metre, centimetre, litre, gram and kilogram.

K.2.1 The student will select metre and centimetre as units for length.

K.3.1 The student will choose the longer (shorter) of two given objects relatively linear in nature. (Pencils, chalk, rods)

K.4.1 The student will select an appropriate object from a group of familiar objects when asked to choose one "about as long as a metre stick."

LEVEL 1 BEHAVIORAL OBJECTIVES

1.1.1 The student will identify a metre stick that is labeled but not necessarily scaled.

1.1.2 The student will identify a centimetre division on a metric ruler.

1.2.1 The student will select both "metre" and "centimetre" as words related to a scaled metre stick.

1.2.2 The student will associate "metre" and "centimetre" to length terms such as long, short, tall, high, wide, etc.

1.2.3 The student will associate "litre" to the measurement of liquids such as milk and water.

1.2.4 The student will associate "kilogram" to the measurement of mass (or weight!) on a beam or balance scale (or personal scale).

1.3.1 The student will directly compare two objects and classify one as longer than, shorter than, or equal to the other.

1.3.2 The student will compare and order on length two pictorial representations of objects.

1.3.3 The student will compare and order areas directly by covering.

1.3.4 The student will compare and order mass directly using a simple scale.

1.3.5 The student will compare and order capacity directly by pouring.

1.4.1 The student will recognize a body referrent for the metre and for the centimetre.

1.7.1 The student will describe the metric system as something "new" for everyone to learn.

LEVEL 2 BEHAVIORAL OBJECTIVES

2.1.1 The student will read the words metre, centimetre, litre, gram and kilogram.

2.1.2 The student will select the symbol for the words metre and centimetre.

2.1.3 The student will read a Celsius thermometer in whole degrees.

2.2.1 The student will state the relationship between m and cm.

2.2.2 The student will identify metre, centimetre, gram, kilogram, litre and Celsius as metric words.

2.2.3 The student will identify at least 5 situations in his environment that will involve (metric) measurement.

2.3.1 The student will compare and order 2 line segments using a cm ruler and whole standard units.

2.3.2 The student will compare and order 2 closed regions of similar shape by visual comparison.

2.4.1 The student will measure the length of a pictorial representation in whole cm.

2.4.2 The student will determine the capacity in whole litres of a given container by pouring with a litre cup.

2.4.3 The student will fill a graduated beaker to the 1-litre mark.

2.4.4 The student will determine whether a small object has mass greater than, less than or equal to a 1-kg weight using a simple scale.

2.7.1 The student will identify the metric system as the measuring system he will use most in the future.

LEVEL 3 BEHAVIORAL OBJECTIVES

3.1.1 The student will select the word form of m, l, g, and kg.

3.1.2 The student will place the common metric prefixes in order on a place value chart.

3.1.3 The student will identify freezing point, boiling point, body and room temperatures on the Celsius scale.

3.2.1 The student will differentiate between km, m, dm, cm.

3.3.1 The student will compare and order measurements in cm^2.

3.3.2 The student will compare and order on area two rectangular regions with sides in whole cm using a transparent cm grid.

3.4.1 The student will estimate lengths in cm.

3.4.2 The student will measure classroom distances to the nearest whole metre.

3.4.3 The student will measure distances less than one metre to the nearest decimetre.

3.4.4 The student will determine the area in cm^2 of a rectangle with sides in whole cm using a transparent cm grid.

3.4.5 The student will measure a liquid correctly to the nearest 100 ml using a calibrated beaker.

3.4.6 The student will determine the volume in cm^3 of a rectangular solid by counting cm cubes or by constructing a similar object with cm cubes.

3.4.7 The student will determine the perimeter of a rectangle or a parallelogram by measuring in whole cm.

3.4.8 The student will determine the approximate mass in grams of a small object using a balance scale to within 10 grams for objects of 100 g or less.

3.4.9 The student will read height in cm and his own weight in kg.

3.5.1 The student will determine the sum and difference of two like measures.

3.6.1 The student will construct a line segment of arbitrary length in whole cm.

3.7.1 The student will recognize the metric system as a measuring system comparable to the English system.

LEVEL 4 BEHAVIORAL OBJECTIVES

4.1.1 The student will state the six common metric prefixes and their meaning.

4.1.2 The student will select the symbol that matches each common metric term.

4.1.3 The student will identify a negative temperature as "very cold."

4.2.1 The student will use the relationships l → ml, g → kg, $m^2 \rightarrow cm^2$, l l = 1 000 ml, 1 kg = 1 000 g.

4.2.2 Given an arbitrary temperature in whole degrees Celsius, the student will record it on a C scale.

4.3.1 The student will compare and order measurements in whole m^2, dm^2, and cm^2.

4.3.2 The student will compare and order measurement in dm^3 and in l.

4.4.1 The student will estimate lengths in m and mm.

4.4.2 The student will measure length to the nearest mm.

4.4.3 The student will estimate areas of triangular regions by counting units and half-units using a transparent grid.

4.4.4 The student will calculate the perimeter in cm of irregular polygons.

4.4.5 The student will measure temperatures to the nearest whole degree.

4.5.1 The student will calculate multiples and even divisions of metric measurements expressed in whole units.

4.5.2 The student will change from km → m → dm → cm → mm by multiplication.

4.5.3 The student will change from cm → dm, dm → m, mm → cm by dividing by 10 when no decimal results.

4.6.1 The student will solve simple word problems that involve addition and subtraction of metric measurements.

4.7.1 The student will state the approximate age and national orgin of the metric system.

4.0.1 The student will identify the general correspondences: m → yd, cm → in, kg → lb, l → qt, °C → °F.

LEVEL 5 BEHAVIORAL OBJECTIVES

5.1.1 The student will write the metric word to match each common symbol.

5.1.2 The student will recognize local seasonal temperature variations in °C.

5.2.1 The student will use the relationships:
km ↔ hm ↔ dam ↔ m ↔ dm ↔ cm ↔ mm, kg ↔ g ↔ mg, kl ↔ l ↔ ml.

5.2.2 The student will use the relationship $dm^3 \leftrightarrow l$ in volume and l ↔ kg in mass of cold water.

5.3.1 The student will compare and order measures in m^3, dm^3, cm^3, kl, l, ml.

5.4.1 The student will make reasonable estimates of the length, mass, and capacity of common classroom items.

5.4.2 The student should read and record in °C the temperature of liquid as it is heated or cooled.

5.5.1 The student will fill a calibrated beaker to an arbitrary measure.

5.5.2 The student will find the sum and difference of two measurements expressed in decimal notation.

5.5.3 The student will calculate the area of a rectangle using the base x height = area formula and measurements in whole units.

5.5.4 The student will express linear measurements correct to the nearest 0.1 m and 0.1 cm.

5.5.5 The student will change mm → cm → dm → m → dam → hm → km, mg → g → kg, ml → l → kl by dividing by 10, 100, or 1000.

5.6.1 The student will solve word problems that involve multiplication of integers times metric measurements (or division of metric measurements by integers). (Whole units only).

5.7.1 The student will explain <u>how</u> the metric system originated.

5.8.1 The student will identify the advantages of using a common set of prefixes with all root words.

5.0.1 The student will make the gross comparisons:
a <u>m</u> is a little <u>more</u> than a <u>yd.</u>, a <u>l</u> is a little <u>more</u> than a <u>qt.</u>,
a <u>kg</u> is a little <u>more</u> than <u>2 lbs.</u>. a <u>cm</u> is a little <u>less</u> than <u>half an inch</u>.

LEVEL 6 BEHAVIORAL OBJECTIVES

6.1.1 The student will recognize these symbols as words: km/h, m/s, km/s.

6.1.2 The student will read metric road signs such as Speed Limit 80 km/h, Raleigh 170 km.

6.1.3 The student will state the linear dimensions of the measurements: m^2, dm^2, cm^2, m^3, dm^3, cm^3.

6.1.4 The student will read a line graph showing variations in outdoor temperature over a period of a week in °C.

6.2.1 The student will use the relationships ha $\longleftrightarrow$ a $\longleftrightarrow$ m^2, t $\longleftrightarrow$ kg.

6.2.2 The student will rename all common metric linear measurements in equivalent values including square and cubic units.

6.3.1 The student will compare and order measurements in the same base unit.

6.4.1 The student will select an appropriate unit of measurement for common objects in his environment from the set: km, m, cm, mm, kg, g, l, ml.

6.4.2 The student will heat a liquid to an arbitrary °C temperature.

6.5.1 The student will calculate the volume of a rectangular solid using metric measurements in decimal notation.

6.5.2 The student will perform multiplication and division operations on metric measurements expressed in decimal notation.

6.5.3 The student will change $cm^2 \longrightarrow dm^2 \longrightarrow m^2 \longrightarrow$ a $\longrightarrow$ ha, kg $\longrightarrow$ t.

6.5.4 The student will express linear measurements correct to 0.001 m and 0.001 km; capacity measurements to 0.001 l; and mass to 0.001 kg.

6.5.5 The student will calculate the area of a rectangle with sides expressed in decimal notation.

6.6.1 The student will calculate the area of triangles, parallelograms and trapezoids using base-height formulas and whole metric units.

6.6.2 The student will make a graph to show comparisons of metric units.

6.7.1 The student will relate some of the historical development of the metric system.

6.8.1 The student will explain the concept and value of a decimalized system.

6.9.1 The student will recognize the advantages of a world-wide measurement system in world communications.

6.0.1 The student will be able to compare English to metric measures given an appropriate printed conversion chart.

LEVEL 7/8 BEHAVIORAL OBJECTIVES

7/8.1.1 The student will read, spell, and define the common metric prefixes and root words, and pronounce them properly (in relation to the language in which he is speaking).

7/8.1.2 The student will identify all the metric base terms.

7/8.1.3 The student will state the prefixes in greater-to-less sequence.

7/8.1.4 The student will identify fever temperature and local climatic ranges in degrees Celsius.

7/8.1.5 The student will read and record metric measurements using accepted symbols and form.

7/8.2.1 The student will associate the prefixes to their multiplication constants.

7/8.2.2 The student will read and interpret charts, graphs, and diagrams showing data in metric terms.

7/8.2.3 The student will convert to any arbitrary equivalent unit from any common metric measurement.

7/8.2.4 The student will read and interpret maps bearing metric scales.

7/8.3.1 The student will compare and order groups of measurements in equivalent units.

7/8.3.2 The student will describe and compare physical areas of his environment, such as athletic fields, courts, classrooms, etc., in metric terms.

7/8.4.1 The student will calculate the volume of irregularly shaped solids by liquid displacement in a graduated beaker.

7/8.4.2 The student will state his height in either m or cm and his weight in kg.

7/8.4.3 The student will read a fever thermometer graduated in 0.1 °C.

7/8.4.4 The student will read and calculate temperature changes during laboratory experiments using a Celsius lab thermometer.

7/8.4.5 The student will measure various volumes using laboratory graduated cylinders.

7/8.4.6 The student will weigh various objects using a laboratory balance and calculate weight differences using metric units.

7/8.5.1 The student will approximate distances between two points on a map bearing a metric scale.

LEVEL 7/8 BEHAVIORAL OBJECTIVES (continued)

7/8.5.2 The student will make all common changes from one metric unit to another by moving the decimal point.

7/8.6.1 The student will use metric measurement in simple algebraic equations and geometric formulas.

7/8.6.2 The student will use metric measurements in such daily activities as class projects, art works, handicrafts, vocational training, sports, and hobbies.

7/8.7.1 The student will trace the progress of the metric system in the U.S. and in the world.

7/8.8.1 The student will compare the metric system to the English system as to simplicity and ease of use.

7/8.9.1 The student will describe how the use of the metric system will facilitate international travel.

7/8.9.2 The student will explain the advantages of the adoption of the metric system in relation to industrial production and world trade.

7/8.9.3 The student will state the implications of a common measurement system in terms of setting world-wide standards in such areas as medicine, economic development, ecological planning, etc.

7/8.0.1 The student will interpret mixed data by translating non-metric data to a metric approximation of appropriate accuracy using given formula, chart or scale.

SEQUENCE OF IMPLEMENTATION OF CONCEPTS (Courtesy Dr. Joe Dodson)

Teaching Level	First Year Implementation	Second Year Implementation
K	Level K Objectives	Level K Objectives
1	Level 1 Objectives	Level K and 1 Objectives
2	Level 1 and 2 Objectives	Level 1 and 2 Objectives
3	Level 1, 2, and 3 Objectives	Level 2 and 3 Objectives
4	Level 1, 2, 3, and part of 4 Objectives	Level 3 and 4 Objectives
5	Level 1, 2, 3, and 4 Objectives	Level 4 and 5 Objectives
6	Level 1, 2, 3, 4, and part of 5 Objectives	Level 4, 5, and 6 Objectives
7	Level 1, 2, 3, 4, and 5 Objectives	Level 5, 6, and 7 Objectives
8	Level 1, 2, 3, 4, 5, and 6 Objectives	Level 6, 7, and 8 Objectives

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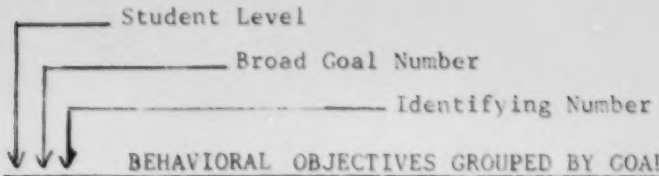
This is from the point of view of a teacher working each year at the given grade level in a system which is uniformly changing to a multidisciplinary metric curriculum. The change will probably be completed in two years if adequate preliminary preparations are made in retraining staff and acquiring materials and equipment needed. In the third year, few "catching up" objectives should be needed, though some review will always be necessary for individual students.

To emphasize what we believe to be the sequential nature of student progress toward metric measurement goals, the behavioral objectives are next grouped by goals. This is desirable as a basis for assessing the relative position of a class and a ready map to the desired point. With each goal, we identify a few classroom activities that might be used toward that end. These activities and many others are briefly sketched in the next section, with recommendations for needed materials and equipment. The activity section is intended to furnish starting points; it is not exhaustive. It can be expanded geometrically by any group of professional teachers working in a metric curriculum.



BEHAVIORAL OBJECTIVES GROUPED BY GOALS	SAMPLE ACTIVITIES
BROAD GOAL 1	
Consistent with his developmental level, the student shall be able to know the language and symbols of the metric system and to communicate readily and effectively with acceptable form and style.	
K.1.1 The student will pronounce the words metre, centimetre, litre, gram, and kilogram.	1.1, 1.6, 1.7
1.1.1 The student will identify a metre stick that is labeled but not necessarily scaled.	1.3, 1.4, 1.29
1.1.2 The student will identify a centimetre division on a metric ruler.	1.5, 1.6, 1.14
2.1.1 The student will read the words metre, centimetre, litre, gram, and kilogram.	1.1, 1.3, 1.19
2.1.2 The student will select the symbol for the words metre and centimetre.	1.2, 1.54, 1.55
2.1.3 The student will read a Celsius thermometer in whole degrees.	1.12
3.1.1 The student will select the word form of m, l, g, and kg.	1.30, 1.31, 1.32
3.1.2 The student will place the common metric prefixes in order on a place value chart.	1.13
3.1.3 The student will identify freezing point, boiling point, body and room temperatures on the Celsius scale.	1.12, 1.15
4.1.1 The student will state the six common metric prefixes and their meaning.	1.29, 1.45, 1.50
4.1.2 The student will select the symbol that matches each common metric term.	1.18, 1.38, 1.52

4.1.3	The student will identify a negative temperature as "very cold."	1.14, 1.20
5.1.1	The student will write the metric word to match each common symbol.	1.39, 1.55, 1.56
5.1.2	The student will recognize local seasonal temperature variations in °C.	1.12
6.1.1	The student will recognize the following symbols as words: km/h, m/s, km/s.	1.38, 1.62, 1.64
6.1.2	The student will read metric road signs such as Speed Limit 80 km/h, Raleigh 170 km.	1.35, 1.42, 1.46
6.1.3	The student will state the linear dimensions of the measurements: m^2, dm^2, cm^2, m^3, dm^3, cm^3.	1.23, 1.28, 1.39
6.1.4	The student will read a line graph showing variations in outdoor temperature over a period of a week in °C.	1.1, 1.12, 1.52
7/8.1.1	The student will read, spell, and define the common metric prefixes and root words, and pronounce them properly (in relation to the language in which he is speaking).	1.15, 1.31, 1.49
7/8.1.2	The student will identify all the metric base terms.	1.27, 1.46, 1.63
7/8.1.3	The student will state the prefixes in greater-to-less sequence.	1.29, 1.32, 1.62
7/8.1.4	The student will identify fever temperature and local climatic ranges in degrees Celsius.	1.41, 3.9, 3.14
7/8.1.5	The student will read and record metric measurements using accepted symbols and form.	1.10, 1.25, 1.28

BROAD GOAL 2

Consistent with his developmental level, the student shall be able to apply the various relationships within the metric system.

K.2.1	The student will select metre and centimetre as units for length.	2.1, 2.5, 2.15

BEHAVIORAL OBJECTIVES GROUPED BY GOALS	SAMPLE ACTIVITIES
1.2.1 The student will select both "metre" and "centimetre" as words related to a scaled metre stick.	2.13
1.2.2 The student will associate "metre" and "centimetre" to length terms such as long, short, tall, high, wide, etc.	2.5
1.2.3 The student will associate "litre" to the measurement of liquids such as milk and water.	2.9
1.2.4 The student will associate "kilogram" to the measurement of mass (or weight) on a beam or balance scale (or personal scale).	2.15
2.2.1 The student will state the relationship between m and cm.	2.1, 2.5, 2.6
2.2.2 The student will identify metre, centimetre, gram, kilogram, litre, and Celsius as <u>metric</u> words.	2.6, 2.8, 2.10
2.2.3 The student will identify at least 5 situations in his environment that will involve (metric) measurements.	2.4, 2.5, 2.6
3.2.1 The student will differentiate between km, m, dm, cm.	2.1, 2.3, 2.4
4.2.1 The student will use the relationships l⟶ml, g⟶kg, $m^2 \rightarrow cm^2$, 1 l = 1 000 ml, 1 kg = 1 000 kg.	2.2, 2.4
4.2.2 Given an arbitrary temperature in whole degrees Celsius, the student will record it on a C scale.	2.8, 2.14
5.2.1 The student will use the relationships: km⟷hm⟷dam⟷m⟷dm⟷cm⟷mm; kg⟷g⟷mg, kl⟷l⟷ml.	2.1, 2.5, 2.11
5.2.2 The student will use the relationship $dm^3 \rightarrow l$ in volume and l⟶kg in mass of cold water.	2.10, 2.12, 2.19
6.2.1 The student will use the relationships ha⟷a⟷m^2, t⟷kg.	2.5, 2.13
6.2.2 The student will rename all common metric linear measurements in equivalent values including square and cubic units.	2.4, 2.9, 2.12

7/8.2.1	The student will associate the prefixes to their multiplication constants.	2.7, 2.12
7/8.2.2	The student will read and interpret charts, graphs, and diagrams showing data in metric terms.	2.6, 2.20
7/8.2.3	The student will convert to any arbitrary equivalent unit from any common metric measurement.	2.5, 2.22, 2.23
7/8.2.4	The student will read and interpret maps bearing metric scales.	2.21
BROAD GOAL 3		
	Consistent with his developmental level, the student shall be able to classify, order, and compare on the basis of measurement attributes.	
K.3.1	The student will choose the longer (shorter) of two given objects relatively linear in nature. (Pencils, chalk, rods)	3.2, 3.3, 3.6
1.3.1	The student will directly compare two objects and classify one as longer than, shorter than, or equal to the other.	3.1, 3.3, 3.6
1.3.2	The student will compare and order on length two pictorial representations of objects.	3.2
1.3.3	The student will compare and order areas directly by covering.	3.4
1.3.4	The student will compare and order mass directly using a simple scale.	3.8, 3.13
1.3.5	The student will compare and order capacity directly by pouring.	3.7
2.3.1	The student will compare and order 2 line segments using a cm ruler and whole standard units.	3.6, 3.10, 3.11
2.3.2	The student will compare and order 2 closed regions of similar shape by visual comparison.	3.7, 3.12
3.3.1	The student will compare and order measurements in cm^2.	3.6, 3.10

BEHAVIORAL OBJECTIVES GROUPED BY GOALS		SAMPLE ACTIVITIES
3.3.2	The student will compare and order on area two rectangular regions with sides in whole cm using a transparent cm grid.	3.1, 3.2, 3.10
4.3.1	The student will compare and order measurements in whole m^2, dm^2, and cm^2.	3.10
4.3.2	The student will compare and order measurements in dm^3 and in l.	3.10, 3.12
5.3.1	The student will compare and order measurements in m^3, dm^3, cm^3; kl, l, ml.	3.8, 3.11, 3.13
6.3.1	The student will compare and order measurements in the same base unit.	3.10, 3.12, 3.13
7/8.3.1	The student will compare and order groups of measurements in equivalent units.	3.12, 3.15, 3.14
7/8.3.2	The student will describe and compare physical areas of his environment, such as athletic fields, courts, classrooms, etc., in metric terms.	3.17, 3.18, 3.19
BROAD GOAL 4		
	Consistent with his developmental level, the student shall be able to estimate and measure length, area, volume, capacity, mass, and temperature using appropriate instruments with metric scales.	
K.4.1	The student will select an appropriate object from a group of familiar objects when asked to choose one "about as long as a metre stick."	4.1, 4.2, 4.5
1.4.1	The student will recognize a body referrent for the metre and for the centimetre.	4.1
2.4.1	The student will measure the length of a pictorial representation in whole cm.	4.2, 4.4, 4.21
2.4.2	The student will determine the capacity in whole litres of a given container by pouring with a litre cup.	4.3
2.4.3	The student will fill a graduated beaker to the 1-liter mark.	4.13
2.4.4	The student will determine whether a small object has mass greater than, less than or equal to a 1-kg weight using a simple scale.	4.9

3.4.1	The student will estimate lengths in cm.	4.20, 4.21, 4.24
3.4.2	The student will measure classroom distances to the nearest whole metre.	4.2, 4.14, 4.40
3.4.3	The student will measure distances less than one metre to the nearest decimetre.	4.4, 4.42, 4.44
3.4.4	The student will determine the area in cm^2 of a rectangle with sides in whole cm using a transparent cm grid.	4.21
3.4.5	The student will measure a liquid correctly to the nearest 100 ml using a calibrated beaker.	4.3
3.4.6	The student will determine the volume in cm^3 of a rectangular solid by counting cm cubes or by constructing a similar object with cm cubes.	4.66
3.4.7	The student will determine the perimeter of a rectangle or a parallelogram by measuring in whole cm.	4.24, 4.26, 4.44
3.4.8	The student will determine the approximate mass in grams of a small object using a balance scale to within 10 grams for objects of 100 g or less.	4.43, 4.73
3.4.9	The student will read height in cm and his own weight in kg.	4.55, 4.56
4.4.1	The student will estimate lengths in m and mm.	4.20, 4.21, 4.24
4.4.2	The student will measure length to the nearest mm.	4.16, 4.47, 4.55
4.4.3	The student will estimate areas of triangular regions by counting units and half-units using a transparent grid.	4.30, 4.34, 4.57, 4.77
4.4.4	The student will calculate the perimeter in cm of irregular polygons.	4.2, 4.37, 4.44
4.4.5	The student will measure temperatures to the nearest whole degree.	4.10, 4.34, 4.45
5.4.1	The student will make reasonable estimates of the length, mass, and capacity of common classroom items.	4.24, 4.41, 4.43
5.4.2	The student will read and record in °C the temperature of liquid as it is heated or cooled.	4.70, 4.71, 4.78

BEHAVIORAL OBJECTIVES GROUPED BY GOALS		SAMPLE ACTIVITIES
6.4.1	The student will select an appropriate unit of measurement for common objects in his environment from the set: km, m, cm, mm, kg, g, l, ml.	4.5, 4.24, 4.25
6.4.2	The student will heat a liquid to an arbitrary °C temperature.	4.7, 4.10, 4.69
7/8.4.1	The student will calculate the volume of irregularly shaped solids by liquid displacement in a graduated beaker.	4.72, 4.74, 4.76
7/8.4.2	The student will state his height in either m or cm and his weight in kg.	4.42, 4.48, 4.81
7/8.4.3	The student will read a fever thermometer graduated in 0.1 °C.	4.46, 4.33
7/8.4.4	The student will read and calculate temperature changes during laboratory experiments using a Celsius laboratory thermometer.	4.60, 4.71, 4.78
7/8.4.5	The student will measure various volumes using laboratory graduated cylinders.	4.61, 4.62, 4.64
7/8.4.6	The students will weigh various objects using a laboratory balance and calculate weight differences using metric units.	4.63, 4.75, 4.77
BROAD GOAL 5		
	Consistent with his developmental level, the student shall be able to perform mathematical, scientific, and other operations that involve the use of metric measures.	
3.5.1	The student will determine the sum and difference of two like measures.	5.5
4.5.1	The student will calculate multiples and even divisions of metric measurements expressed in whole units.	5.1, 5.2, 5.3
4.5.2	The student will change from km → m → dm → cm → mm by multiplication.	5.5, 5.6
4.5.3	The student will change from cm → dm, dm → m, mm → cm by dividing by 10 when no decimal results.	5.5, 5.6
5.5.1	The student will fill a calibrated beaker to an arbitrary measure.	5.8, 5.17, 5.18

5.5.2	The student will find the sum and difference of two measurements expressed in decimal notation.	5.2, 5.3, 5.6
5.5.3	The student will calculate the area of a rectangle using the base x height = area formula and measurements in whole units.	5.5, 5.6, 5.10
5.5.4	The student will express linear measurements correct to the nearest 0.1 m and 0.1 cm.	5.4, 5.14
5.5.5	The student will change mm → cm → dm → m → dam → hm → km, mg → g → kg, ml → l → kl by dividing by 10, 100 or 1000.	5.7, 5.8
6.5.1	The student will calculate the volume of a rectangular solid using metric measurements in decimal notation.	5.9
6.5.2	The student will perform multiplication and division operations on metric measurements expressed in decimal notation.	5.5, 5.8, 5.9
6.5.3	The student will change $cm^2 \rightarrow dm^2 \rightarrow m^2 \rightarrow a \rightarrow ha$, kg → t.	5.10
6.5.4	The student will express linear measurements correct to 0.001 m and 0.001 km; capacity measurements correct to 0.001 l and mass correct to 0.001 kg.	5.2, 5.7
6.5.5	The student will calculate the area of a rectangle with sides expressed in decimal notation.	5.6, 5.10
7/8.5.1	The student will approximate distances between two points on a map bearing a metric scale.	5.16, 5.17
7/8.5.2	The student will make all common changes from one metric unit to another by moving the decimal point.	5.7

BROAD GOAL 6

<u>Consistent with his developmental level, the student shall be able to solve problems in his daily activities, at school and away, that involve metric measurement.</u>

3.6.1	The student will construct a line segment of arbirtary length in whole cm.	6.8

BEHAVIORAL OBJECTIVES GROUPED BY GOALS		SAMPLE ACTIVITIES
4.6.1	The student will solve simple word problems that involve addition and subtraction of metric measurements.	6.3
5.6.1	The student will solve word problems that involve multiplication of integers times metric measurements (or division of metric measurements by integers). (Whole units only.)	6.3, 6.7, 6.9
6.6.1	The student will calculate the area of triangles, parallelograms and trapezoids using base-height formulas and whole metric units.	5.5, 5.6
6.6.2	The student will make a graph to show comparisons of metric units.	5.3, 5.7
7/8.6.1	The student will use metric measurement in simple algebraic equations and geometric formulas.	6.1, 5.8
7/8.6.2	The student will use metric measurements in such daily activities as class projects, art works, handicrafts, vocational training, sports, and hobbies.	6.9, 6.10, 6.12
BROAD GOAL 7		
Consistent with his developmental level, the student shall be aware of the historical background of the change to metrics.		
1.7.1	The student will describe the metric system as something "new" for everyone to learn.	7.2
2.7.1	The student will identify the metric system as the measuring system he will use most in the future.	7.1
3.7.1	The student will recognize the metric system as a measuring system comparable to the English system.	7.2
4.7.1	The student will state the approximate age and national orgin of the metric system.	7.3, 7.5
5.7.1	The student will explain how the metric system originated.	7.4, 7.8, 7.9
6.7.1	The student will relate some of the historical development of the metric system.	7.14, 7.5, 7.18

7/8.7.1 The student will trace the progress of the metric system in the U.S. and in the world.	7.15, 7.19, 7.24, 1.47
BROAD GOAL 8 Consistent with his developmental level, the student shall be able to appreciate the simplicity, consistency, and efficiency of the metric system.	
5.8.1 The student will identify the advantages of using a common set of prefixes with all root words.	8.1
6.8.1 The student will explain the concept and value of the decimalized system.	8.2
7/8.8.1 The student will compare the metric system to the English system as to simplicity and ease of use.	8.3
BROAD GOAL 9 Consistent with his developmental level, the student shall be able to perceive some of the economic, social, and philosophic implications of world-wide adoption of a common measurement language and system.	
6.9.1 The student will recognize the advantages of a world-wide measurement system in world communications.	9.1, 9.8
7/8.9.1 The student will describe how the use of the metric system will facilitate international travel.	9.4, 9.11, 9.12
7/8.9.2 The student will explain the advantages of the adoption of the metric system in relation to industrial production and world trade.	9.9, 9.10, 9.14
7/8.9.3 The student will state the implications of a common measurement system in terms of setting world-wide standards in such areas as medicine, economic development, ecological planning, etc.	9.16, 9.19, 9.21

BEHAVIORAL OBJECTIVES GROUPED BY GOALS	SAMPLE ACTIVITIES
BROAD GOAL 0	
Consistent with his developmental level, the student shall be able to relate metric measures to those of other systems when he must interpret mixed data.	
4.0.1 The student will identify the general correspondences: m↔yd, cm↔in, kg↔lb, l↔qt, °C↔°F.	0.1, 0.4
5.0.1 The student will make the gross comparisons: a m is a little more than a yd., a l is a little more than a qt., a kg is a little more than 2 lb., a cm is a little less than half an inch.	0.3, 0.6
6.0.1 The student will be able to compare English to metric measures given an appropriate reference chart of equivalent measures.	0.7
7/8.0.1 The student will interpret mixed data by translating non-metric data to a metric approximation of appropriate accuracy using given formula, chart, or scale.	0.8

Range (with some adaptation)
Goal Number
Identifying Number

	ACTIVITIES FOR GOAL 1	USEFUL MATERIALS/EQUIPMENT (see list, pages 46 ff)
K-8.1.1	Match pictures related to measurement by litre, metre, gram, Celsius with metric terms. (Referrents)	33, 41, 79, 110A, 302, 356, 360, 365, 603A, 602B
1-8.1.2	Scrambled eggs. Print the words metre, litre, gram, Celsius or other appropriate words. Cut up words. Place in L'Eggs. Children spell the term to solve the puzzle.	L'Eggs containers
K-8.1.3	Relate measurement to counting by counting rows of rods, pencils, crayons - call attention to the phrase "this row is 4 pencils long."	903, 909, 912, 914, 915
1-8.1.4	Relate cent to centi, dime to deci, dollar to metre.	886, 887, 888
3-8.1.5	Find an object about 1 cm, 1 dm, 1 m long by first estimating, then measuring.	4, 748, 730, 755
K-8.1.6	Measure students in cm. Make height chart on cut-off end of window shade from home furnishings store.	727, 781B
K-2.1.7	Metric Choo-Choo. Call for metric response or use flash cards - if child is right he can hook onto the train (Conga line).	
3-8.1.8	Find or make up a metric recipe (Kool Aid) and make. Talk about which measurements are used in cooking.	104, 504, 519, 520, 76B
3-8.1.9	Have students collect containers bearing metre, litre or gram labeling. Make a collage or display.	
1-8.1.10	Use simple scales to measure with plastic gram cubes. Find objects that weigh about 1 g, 1 kg.	820, 903
K-8.1.11	Weigh students on metric personal scale, keep continuing record in kg.	813 or similar

ACTIVITIES FOR GOAL 1		USEFUL MATERIALS/EQUIPMENT
2-8.1.12	Have students read temperature aloud from Celsius thermometer. Keep a daily record in classroom and outside. Questions - Would 47°C be a good day for swimming?	13, 78, 110, 29, 33, 992
3-8.1.13	Use the place value chart to place words in proper order. Use with each root word.	37, 98, 107, 309
1-8.1.14	Work with metric measuring tools, encouraging discussion of scales shown and any variations.	13
1-8.1.15	Play games using metric terms (Can you hop 10 metres?)	301, 353, 363, 364, 366
3-8.1.16	Play games using prefixes and base words.	363, 366
4-8,1.17	Metric Rummy: Use deck of 42 cards (2 per prefix with base unit and 2 cards of each base unit).	
3-8.1.18	Metric Concentration (match symbol to word).	
2-5.1.19	Metric Scramble	
4-8.1.20	Question and Answer Cards. Students may make flash cards, set rules, score.	
4-8.1.21	Crossword Puzzles. Use cm grid paper - students make up puzzles with metric words.	4
K-4.1.22	Treasure Hunt. Find the hidden words.	
5-8.1.23	Metric Bingo.	177
7-8.1.24	FA Do a design project using metric words or symbols - calligraphy.	
7-8.1.25	FA Use cm grid paper for laying out art works - note the ease with which it can be enlarged or decreased.	

ACTIVITIES FOR GOAL 1		USEFUL MATERIALS/EQUIPMENT
7-8.1.26	FL Note particularly that measurements in French (or German, Italian, etc.) are already metric, though their spellings are not always consistent with SI. Emphasize that language changes in every country over a period of time.	
7-8.1.27	HE Introduce the metric vocabulary commonly used in the home - note that it may not always be best to use our accustomed ways - mass may be a more accurate measurement than volume (as flour) for food preparation, for example.	80, 403
6-8.1.28	IA Emphasize that the common measuring unit for lumber is a volume measurement; the name of the proper metric unit will be cubic metres (m^3) (replacing board feet).	195, 726, 727, 908
K-8.1.29	LA Pronounce metric words aloud in class.	310
3-8.1.30	LA Write the words correctly.	119, 172, 190, 312
3-8.1.31	LA Write phrases that include each word.	
3-8.1.32	LA Write whole sentences to include each word.	
3-8.1.33	LA Locate metric words in paragraph materials.	
6-8.1.34	LA Write paragraphs that include measurements.	3, 5, 20, 42
6-8,1.35	LA Report orally on sporting events, hobbies, or other activities involving measurements.	82, 99
7-8.1.36	LA Find formal definitions of metric terms.	119, 172, 190, 429
7-8.1.37	LA Study other words that have the same prefixes or that contain the root words.	
4-8.1.38	LA Note that km is called s symbol and not an abbreviation.	172, 190, 87, 107
5-8.1.39	LA cc is an abbreviation for cubic centimeter. cm^3 is the correct symbol. Symbols are not followed by periods; abbreviations often are.	73, 81, 82, 83, 107

ACTIVITIES FOR GOAL 1	USEFUL MATERIALS/EQUIPMENT
5-8.1.40 LA Worksheets with numbers and symbols - student writes as words.	98, 107, 129, 74, 87
7-8.1.41 LA The students relate activities seen or imagined. The statements are written in words ("Joe Friday" interviews).	
6-8.1.42 LA Give oral interpretation of metric charts and graphs encountered in reading. (Does <u>not</u> imply converting data to English measures!)	309
5-8.1.43 LA Metric spelling unit to include: a) Root words and prefixes b) Discussion of reasons for change c) Pronunciation d) Spelling (with SI and English forms: re/er) e) Meaning of words f) Etymology of terms g) Have students make lists - groceries, trip list using km, gas station needs, things in everyday life that will soon be metric- milk, gas, cereal, maps, etc.	
5-8.1.44 LA Creative Biography. Student will write a brief biography of a) Karen Kilometre b) Kathy Kilogram c) Molly Metre d) Larry Litre e) Gary Gram or any of their relatives.	
4-8.1.45 LA Whenever measurement is found in literature, ask student for the appropriate metric measurement unit, and emphasize change <u>from</u> old way <u>to</u> new way of future. Think relationships, not conversions.	42
6-8.1.46 LA When writing any tests or worksheets, use metric language wherever appropriate, to increase student familiarity with the vocabulary.	72A, 87
7-8.1.47 LA <u>Outlining Unit</u> - use the metric system or history of the metric system in the encyclopedia as an assignment to be outlined or as a classroom example.	46A, 185, 416

ACTIVITIES FOR GOAL 1		USEFUL MATERIALS/EQUIPMENT
7-8.1.48	LA Take idioms and song titles (a miss is as good as a mile, etc.) and translate to metrics.	
7-8.1.49	LA Most Important - Language Arts teachers must constantly use metric terms when talking about measurements - both at school and at home!	
4-6.1.50	LA Use filmstrips and tapes for pronunciation and spelling.	423, 429, 441, 406-3
7-8.1.51	LA Make a dictionary of metric terms.	
4-8.1.52	LA Make charts and graphs using metric terms.	114, 130, 404, 406, 407, 720, 748, 754
7-8.1.53	LA Compare English terms to metric terms when reading graphs and charts.	
2-8.1.54	LA Make a bulletin board matching metric terms with their symbols.	114B, 130
2-8.1.55	LA Make charts of metric words and symbols.	
5-8.1.56	LA Match objects with symbols used when measuring them, (as map $\longrightarrow$ km).	413, 426
7-8.1.57	LA Include metric prefixes in unit on prefixes and suffixes.	
7-8.1.58	LA Include metric words in a unit on etymology.	
7-8.1.59	LA Make a bulletin board showing the origin of metric terms.	114A, 130
7-8.1.60	LA Make posters tracing the origin of metric terms.	174, 441
7-8.1.61	LA Emphasize measurements in reading and relate them to metric terms.	
6-8.1.62	MA Introduce the phrases constant rate, distance per second, and scientific notation.	606,618
7-8.1.63	MA What's another name (Spinner Game) - (1) spin a number and a name, (2) spin another name, change the number to fit.	
5-8.1.64	PE Practice short timed dashes emphasizing the meaning of metres per second (m/s).	770, 771, 788, 789

ACTIVITIES FOR GOAL 2		USEFUL MATERIALS/EQUIPMENT
K-8.2.1	Use rods to compare cm to dm, dm to m.	720, 736, 909, 41, 912
3-8.2.2	Work with metric place value chart on position of the prefixes (no decimals).	733, 736, 756, 801, 856
1-8.2.3	Make a metre stick using tagboard. Trace cm cubes side by side for accuracy to determine the units cm and dm. Fill in mm with metric rule. Measure five things in your home.	736, 909
1-8.2.4	Measure small and larger units - fingers, fingernails, desk chair, shoes, feet, height, pencils, erasers, paper, paperclips, windows, cafeteria silver, trays, floor, hallway, walkway, etc. all in length and width. Use addition and subtraction, change mm to cm, cm to dm, dm to m. Use place value chart, observe and work with smallest to largest unit each in its own place.	6, 7, 57, 411, 414, 512, 513
3-8.2.5	Read and record each other's measurements and change from one unit to another (Joe records cm, Jane changes to dm).	4, 24, 89, 424, 429
2-8.2.6	Use "found" articles that have metric measurements on labels. Compare.	42, 59, 72A
5-6.2.7	Use metric place value chart with decimal to establish decimal notation. Avoid continuing to use expanded notation after this point.	309
2-4.2.8	Check outdoor temperature each day - relate to clothing worn.	990, 992
1-8.2.9	Make a litre box; a cm^3 box. Measure something you can pour (beans, popcorn, sand, etc.)	415, 621, 768B, 907
2-8.2.10	Make objects with mass of one gram; one kg. Label them.	108, 801, 838
2-8.2.11	MA Use Metric Rummy for increased familiarity with metric terms and their relationship to each other.	301
2-8.2.12	MA Make a poster or bulletin board showing measures and prefixes. (Ex. $10^3 \rightarrow$ 1000 metres $\rightarrow$ a kilometre $\rightarrow$ km)	114A, 130, 308, 310, 620, 621

ACTIVITIES FOR GOAL 2		USEFUL MATERIALS/EQUIPMENT
2-8.2.13	Measure a cubic metre in one corner of the room, using 3 squares of newspaper on floor and walls and a metre stick and strings at outer corner. Relate to are, hectare, and tonne of water. How many kids fill a cubic metre? How many make a tonne?	619, 908
6-8.2.14	Study the weather forecast in the newspaper or on T.V. and predict tomorrows high and low temperatures in °C by starting from today's reading in °C (no conversion intended).	992
1-8.2.15	Use cm cubes on rods to compare cm to m. Make a m length of cm cubes and count them.	909
5-8.2.16	Use a litre cup to compare the capacity of a 1-gallon water jug to that of a 1-gallon milk jug.	856
2-8.2.17	Open a large can of juice. Use a litre cup to measure the amount. Divide into paper cups to drink.	856
3-8.2.18	Weigh each child on a kg scale. Let him stack all his books, etc. on the scale to see how heavy they are.	313
5-8.2.19	Fill a dm^3 box with cold water and weigh (adjust for weight of box).	859 or 860
7-8.2.20	SS Using charts in their textbooks, let students analyze and compare metrically products and mineral resources of countries they study.	
7-8.2.21	SS Using maps with metric scales, students plan trips through the countries they study, determining distances and shortest routes.	310
7-8.2.22	HE Use a metric recipe. Check on the number of servings. Calculate the amount of each ingredient needed to double the recipe; to increase it 10 times. State the quantities in reasonable units.	76B
5-8.2.23	Apple Contest: Give each student a large apple of about same weight. Weigh them. Have each student take as large a bite as he can. Weigh again and determine size of the bite to nearest gram (or other unit depending on scales available). Repeat twice or agreed number of times. Compute average bite. How many bites will make a kg?	801, 903

ACTIVITIES FOR GOAL 3		USEFUL MATERIALS/EQUIPMENT
1-6.3.1	Compare by repeated pourings, as cups of sand, and addition of units - "this row is 2 blocks long, that one is 3 blocks long," etc.	722
1-4.3.2	Collect many small items similar in nature. Make many comparisons by covering, standing side-by-side, etc.	
K-8.3.3	Count into groups. Let each group select its tallest member to perform some task.	736
K-2.3.4	Exercises (fill in blanks) or games using attribute words, blocks, or sets.	915
4-5.3.5	Manipulate the examples metre, litre, gram (1/100 of a metre = 1 cm).	
K-8.3.6	Use Cuisonaire rods - arrange and compare.	33, 41, 52, 101A, 110A, 909
1-8.3.7	Use a litre cup to fill large containers with water; count litres. (Note: a milk carton, spout open and filled to the top, holds a litre.)	83, 84, 108, 855, 867, 868, 872A
1-8.3.8	Weigh items labeled in grams (use gram cubes and count). Bag of small candies is good - divide and eat!	838, 801, 803, 805, 806
3-8.3.9	Play games with cards containing 1 cm - 10 cm measured line segments.	993
2-8.3.10	Make verbal comparisons of the results of measurements being made for any classroom purpose. Write a sentence comparing two real measures.	131, 198, 301, 414, 620, 768B, 862
2-8.3.11	Using the metre stick, measure a number of objects according to metres or any prefix with metre.	98, 99, 101A
2-8.3.12	Using the litre box, take objects and discover their capacity - then identify, describe, and compare objects by litre and prefixes.	83, 84, 108, 129, 415, 859, 806, 861
1-8.3.13	Using an object that weighs 1 gram, take other objects and identify, describe and compare their mass to the gram and kg units.	838, 801, 439, 813
7-8.3.14	Using the Celsius thermometer, graph the temperature in the classroom and outside on a day-to-day basis. According to this graph, compare rise and fall in both inside and outside temperature.	992, 988, 998, 718

ACTIVITIES FOR GOAL 3		USEFUL MATERIALS/EQUIPMENT
4-8.3.15	Draw a picture of your favorite sport or hobby. In one corner, put the Celsius temperature that would be best for it.	992
7-8.3.16	Metric Baseball.	
6-8.3.17	Metric Football.	354
5-8.3.18	Metric Relay	
7-8.3.19	SS Compare maps of the same country with metric and with English scales. Note that the map does not necessarily change, but a different size may be more convenient to use.	938

ACTIVITIES FOR GOAL 4		
1-8.4.1	Draw off a large child beside metric tape. Have children see how tall they are.	2A, 781B, 775, 2B, 17
2-8.4.2	Measure room in metres.	42, 99, 106, 125, 129, 620
2-8.4.3	Measure water to see how much makes a litre. Use graduated plastic cylinders or cups to find the capacity of common containers (pop bottles, milk carton, etc.)	83, 84, 108, 356, 362, 852, 855, 860, 861, 867, 868, 871, 872
2-6.4.4	Use rods (cm and dm) to measure small objects, pencils, crayons, etc.	909, 60, 75, 110A, 912
4-8.4.5	Have children weigh themselves on a metric scale (read numbers for them if necessary). Emphasize that kilograms are <u>big</u> - children want to be big. With older students, especially girls, emphasize the <u>small</u> numbers!	42, 813, 817
4-5.4.6	Read temperatures each day and compare (make like weather calendar).	992, 987, 998, 42, 718
4-6.4.7	Make big Celsius thermometer with movable tape to indicate temperature.	13, 986
3-8.4.8	Set up measurement center with rulers, metre and yard sticks, scales, quart and litre containers. Encourage measurement of "found" items.	

ACTIVITIES FOR GOAL 4		USEFUL MATERIALS/EQUIPMENT
2-8.4.9	Weight: Use scales graduated in grams and kg. Use scales graduated in pounds.	42, 801, 803, 805, 806, 817
4-8.4.10	Temperature: Students read thermometers - scales in °C and °F.	992, 987, 998
3-8.4.11	Time: Students tell time in 5-minute intervals.	891
2-8.4.12	Money: Students give value of a collection of coins. Recognize the base 10 relationship.	107, 145, 886
2-8.4.13	Liquid: Measure the amount of liquid a container holds in cm^3 and in l. Measure same in cups, pints, quarts, gallons.	83, 84, 108, 356, 362, 851, 855, 860, 863, 864A, 861, 859
3-8.4.14	Length: Measure lengths in metres. Make conversions among cm, dm, m, and km. Measure lengths in inches, feet, and yards. Do not make formula-type comparisons unless students have had some algebra.	98, 107, 129, 610, 727, 736, 747, 46C
5-8.4.15	PE Measure sports equipment - (1) balls (diameter), (2) ropes, bats, etc. (length), (3) playing fields, boundaries.	770, 771, 772, 788
4-8.4.16	HEALTH Keep monthly record of height and individual measurements.	723, 724, 725A
7-8.4.17	FA Measure costumes, props, materials (paint, brushes, paper, etc.), stage.	
7-8.4.18	FA Weave place mats. Measure length and width of construction paper,	83, 84, 108, 356, 362
7-8.4.19	SC Unit "Making Work Easier." Measure length, width, distance in making and using simple machines: inclined planes, screws, bolts, wheel and axle, fulcrum from different distances, pulley with string.	727
3-5.4.20	Make a chart on which to record estimates by students. Then measure and record. (Ex. height of door, volume of can).	2A, 17, 110A, 101A, 98, 42B, 516
3-4.4.21	Given a metric measurement, have students guess an object that size; measure and record.	42A, 610, 756
7-8.4.22	Estimate mileages; use map skills.	758, 744

ACTIVITIES FOR GOAL 4		USEFUL MATERIALS/EQUIPMENT
6-8.4.23	Stress equivalencies such as 97 on the metre stick = 0.97 m = 9.7dm = 970 mm. (Use the metric system to teach decimal notation.)	98, 192, 727, 732
3-8.4.24	Name an object in the room. Let student decide if it should be measured in m, dm, cm, or mm. Estimate the dimensions. Measure.	42, 620, 756, 758, 768B, 727, 748
6-8.4.25	Talk about long distances - as to homes of students, nearby cities, faraway places. Have they visited metric countries?	42, 416, 429, 610, 744, 788
3-8.4.26	FA Make posters to put around school illustrating everyday things with their measurements in metrics.	312
7-8.4.27	HE Make fruit punch using various sizes of ml measures.	871, 872A, 872B
7-8.4.28	HE Measure ingredients for quick breads.	519, 520, 871, 872B, 873B
7-8.4.29	HE Measure the size of cake pans and other utensils.	754
4-8.4.30	HE Measure the distance of the work triangle in the kitchen, at school, and at home.	722, 727, 736, 756
7-8.4.31	HE Clothing - measure in m fabric needed for a pattern.	781B, 736
7-8.4.32	HE Make a quilt as a class project. Each student make a square made up of smaller geometric patterns. The class will then put all quilt squares together to form a large quilt. Auction it off at last PTA; use money for class project.	754, 727
4-8.4.33	HE Test temperature for a baby bath.	989
4-8.4.34	HE Check room temperature. Discuss effect of room too hot or too cold on comfort, efficiency, health.	989, 990
4-8.4.35	HE Use °C conversion stick-on on ovens.	
7-8.4.36	HE Using a metric scale floor plan for a bedroom, arrange furniture cutouts for efficient use of space for teens.	718, 754

ACTIVITIES FOR GOAL 4			USEFUL MATERIALS/EQUIPMENT
4-8.4.37	HE	Have students make a floor plan of their (ideal) bedroom.	718
6-8.4.38	HE	Compute carpet needed for floor in m^2.	727, 734, 736
7-8.4.39	HE	Cover a small box to hold grooming items. Find surface dimensions in cm and surface areas in cm^2.	754
3-8.4.40	MA	Measure one metre. Mark with marking tape. Continue for 10 m and cut off remainder.	727, 783
5-8.4.41	MA	Measure length and width of room.	736, 788
3-8.4.42	MA	Make a personal data sheet showing: height, weight, waist, chest, span, reach, pace, length of shoe.	773, 42, 727, 813, 781B
3-8.4.43	MA	Weigh 6 objects on a balance scale and record the measurements.	801, 42, 837, 840
3-8.4.44	MA	Measure 6 objects in the room and record.	748, 775
4-8.4.45	MA	Check outdoor and room temperature and record each day on chart or graph.	787, 988, 992
4-8.4.46	MA	Check own temperature and record.(Sterile prodedure, please!)	989
4-8.4.47	PE	Measure the body diameters of shoulder girdle, wrist, knees, chest. Measure distance around biceps, muscles relaxed, then flexed.	775, 42
7-8.4.48	PE	a) Measure standing broad jump in m. b) Measure height of student in m. c) Find which is larger, a or b.	770, 771, 788, 775, 748
7-8.4.49	PE	Compare jumps of our students with record holders of the same age group.	770, 771, 788
7-8.4.50	PE	Measure running broad jump in m.	788, 776
7-8.4.51	PE	Measure high jump and pole vault in m.	770 or similar

ACTIVITIES FOR GOAL 4	USEFUL MATERIALS/EQUIPMENT
7-8.4.52 PE Measure distances for dashes and runs in m and km.	770
3-8.4.53 PE Measure softball throw distance in m.	770
7-8.4.54 PE Weight lifting of barbells in kg.	813 or similar
3-8.4.55 PE Weight of students in kg.	813
3-8.4.56 PE Measure grasp of squeeze of one or both hands using bathroom scale in kg.	813
3-8.4.57 PE Check temperature of classroom and outside temperature in degrees C.	990
3-8.4.58 PE Measure all playing fields in PE in m.	770
7-8.4.59 SC Presentation of Terminology. Use lab sheets on measurements.	610, 107, 129
7-8.4.60 SC Conduct investigation in which samples of food (walnut or peanut) are burned and heat released is measured metrically. (1) Food sample is weighed before and after burning on trip balance in g. (2) Temperature is measured in °C in measured volume of water (ml).	801, 838, 863, 993
7-8.4.61 SC Measure sand in graduated cylinder. Measure water in graduated cylinder. Pour sand into water and measure.	863, 864A, 83, 84, 108, 356, 362
7-8.4.62 SC Calculate the percentage of air in dry sand from the above metrically measured units. Measure 500 ml of rocks and calculate the percentage of air. Compare amounts of matter by mass.	801, 838A
7-8.4.63 SC Measure mass of a penny in plumber's beads. Convert to grams.	801, 838
7-8.4.64 SC Measure chemicals for experiments.	801, 838
7-8.4.65 SC Measure mass of gas released from Alka Seltzer.	
3-8.4.66 SC Measure cubes and other objects. Calculate volume.	801, 838
7-8.4.67 SC Use balance to measure mass and calculate density.	801, 838

ACTIVITIES FOR GOAL 4		USEFUL MATERIALS/EQUIPMENT
7-8.4.68	SC Measure mass of a graduated cylinder. Measure liquid in cylinder, mass again. Subtract mass of cylinder. Calculate density.	801, 838
6-8.4.69	SC Place unmarked thermometer in ice water, then in boiling water. Mark and graduate.	
7-8.4.70	SC Set up aparatus for distillation, measure boiling point of alcohol.	993, 760
7-8.4.71	SC Melt moth flakes in test tube, place thermometer in tube, cool and observe freezing point.	993
6-8.4.72	SC Measure edges of a cube. Calculate the volume.	748, 861
3-8.4.73	SC Make a dm^3 box of cardboard, fill with water, find mass. (Use a plastic bag liner.) Measure liquid in ml.	748, 801, 838
7-8.4.74	SC Find the solubility of potassium nitrate or salt in water.	801, 838, 993
7-8.4.75	SC Calculate the size and mass of an oliec acid molecule.	748
7-8.4.76	SC Calculate the thickness of aluminum foil.	748, 801, 838
7-8.4.77	SC Heat a known mass of water through a 20 °C temperature change. Calculate calories.	801, 838, 993
7-8.4.78	SC Calculate specific heat of water, cooking oil, ethelene glycol, metal washers.	801, 838, 993
7-8.4.79	IA Construct a small object using instructions in metric terms (example: peg board for game with golf tees.)	726, 769
7-8.4.80	Measure heights using a plumb bob and a metre stick.	727

ACTIVITIES FOR GOAL 5		USEFUL MATERIALS/EQUIPMENT
4-8.5.1	Count off by numbers to divide class into groups of 4. Give each group a tape measure and metre stick. Measure height, waist, etc., and add the four measurements. Which is the "tallest" group, "shortest, " "biggest" waist, smallest, etc.?	727, 775, 732, 813, 309
4-8.5.2	Pair up and measure height. Find difference. Which pair has greatest difference, which least?	730, 732, 775, 813
4-8.5.3	Let students weigh and measure themselves using metrics. Find total mass of class, combined height, waist.	813
5-8.5.4	Find average weight, height, span, mass, waist, etc. of the class. Draw a figure and label it with these measures. Name it!	727, 781B, 813
3-8.5.5	Using basic operations, work word problems using metrics.	4, 35, 37, 98, 107, 129, 364, 417, 720, 722, 730, 732
4-8.5.6	Use metrics for all kinds of problems in mathematics. (Does not imply exclusive use of metrics.)	351, 94B, 110B, 161B, 151B
5-8.5.7	Use metrics for all measurement operations in science classes. (This is exclusive!)	137
5-8.5.8	HE Change metric recipes to accommodate more or fewer people - note use of decimal notation and one unit as an aid to simplicity.	76B, 504, 519, 515B, 931, 935
7-8.5.9	IA Using actual boards in the shop, compute volume in m^3.	738A
5-8.5.10	IA Construct models for cm^2, dm^2, and m^2 and for cm^3, dm^3, and m^3. (Make frame, cover with poster board or plywood.) Note: a m^3 with doors on one or more sides makes a large storage cabinet.	732
7-8.5.11	IA General shop classes should have and use metric tools. Woodworking should continue in English measures. Do some dual dimensioning on drawings. Avoid dead length rulers!	
4-8.5.12	MA Use the Celsius thermometer to introduce positive and negative integers and addition and subtraction in the set of all integers.	992, 94B

ACTIVITIES FOR GOAL 5			USEFUL MATERIALS/EQUIPMENT
7-8.5.13	MA	In Between (Game) (1) Divide class into 2 teams. (2) Write 2 measure names on the board (Ex: 16 m & 24 m). (3) First person names a measure between the two (Ex: 20 m). (4) Next person names a measure between that and the closest of the first two. (5) Continue until you have 2 consecutive integers as 17 m and 18 m. Change to next lower unit (170 dm and 180 dm) and continue until no one can find a measure between.	
5-8.5.14	PE	Compute batting averages - stress that these are decimal numbers.	25, 352, 405
7-8.5.15	PE	Change statements of game results to statements of ratio: "Tournament: Wiley 5 to Joneston 3" means Wiley won 5 out of 8 or 5/8 of the games played.	25
6-8.5.16	SS	Work with simple statement of numerical comparison of the form 1a = 5b used in studying charts, maps, etc.	
5-8.5.17	SS	Use a map with a metric scale. Measure the distance in cm between two cities. Using the map scale, compute the distance in kilometres.	
5-8.5.18	MA	Use the color-coded metre stick to introduce a unit on decimal usage.	727
7-8.5.19	SC	Use the double - or triple-beam balance to review decimal notation in measurement. Stress method of securing desired degree of accuracy.	803, 804

ACTIVITIES FOR GOAL 6			
4-8.6.1		Students bring empty containers. Weigh them. Compare to weight of contents as shown on label.	801, 802, 805, 806, 837, 827A, 840
5-8.6.2		Use dual bathroom scale or two scales. Compare weight in kilograms to weight in pounds, discover which is larger number and which is the larger unit.	817
3-6.6.3		Use graduated beakers. Fill with water. Change to smaller units. Reverse.	854, 855

ACTIVITIES FOR GOAL 6		USEFUL MATERIALS/EQUIPMENT
7-8.6.4	Temperature. Measure in degrees Celsius and compare to °F. Room temperature, body temperature, outdoor.	992, 988, 989
3-8.6.5	Make collage. Collect different metric units found by students at home, in newspapers, in neighborhood.	
K-8.6.6	Motivation: filmsprips, tapes, songs, etd.	401, 416, 420, 429, 441
5-8.6.7	Social Studies unit on clothing. Size, width, length involved in cutting cloth. Will metric measures make fitting easier?	727, 784B
3-8.6.8	Give students a list of objects and ask to estimate; then let them check their estimates by measuring, recording and analyzing the results.	
5-8.6.9	Keep chart of high and low temperature for the day in °C from radio or T.V. broadcasts.	
7-8.6.10	Have class discussion on questions: (1) What are we doing? (2) What else can we do? (3) What are the limits of our responsibility?	441
7-8.6.11	Have class discussion on areas of use: (1) Why did they adopt metric measures? (2) How long have they used it? (3) What are the advantages? (4) Are there disadvantages?	429, 441
3-8.6.12	Collect containers showing metric labels. Make a display. Relate to number of servings. Compute cost per serving.	
7-8.6.13	Solve word problems using algebraic equations and metric measurements.	613, 618, 527
7-8.6.14	Construct a triangle, rectangle, and/or other suitable geometric figure, then label with metric measurements.	726, 756
ACTIVITIES FOR GOAL 7		
2-8.7.1	Talks by resource people, especially those who use a metric measurements in their work or who have lived in "metric" countries.	1, 3, 7, 31, 47, 88

ACTIVITIES FOR GOAL 7		USEFUL MATERIALS/EQUIPMENT
1-8.7.1	Use available movies and filmstrips that show historical perspective; are any from other countries?	401, 412, 416, 420, 429, 441, 185, 402, 406
4-8.7.3	Encourage individual research by students; why have scientists and mathematicians advocated the metric system?	
5-8.7.4	Relate metric system to story of French Revolution.	150, 103, 181, 406
4-8.7.5	Study early standards of measure to discover why individual units, based on body parts, are not accurate.	150, 441
6-8.7.6	Have each student measure his desk using the length of his thumb from the tip of the nail to the first joint as a unit. Call this a "thoint." Have each report the number of "thoints" his desk measured. Compare with inch and cm measurements. What was the origin of the inch? The cm?	751, 727
6-8.7.7	Pace off length of classroom, a corridor, or a street. At least four friends do the same. Record and compare. Compare to yards and metres.	788
5-8.7.8	Research and report on the logical system proposed to the French Academy at the end of the 18th century.	150
5-8.7.9	FA Sketch (or whatever media) a famous event in the life of the metric system.	
7-8.7.10	HE Collect import-food labels showing metric weights or capacities. Relate to recipes and food preferences in other countries.	
7-8.7.11	HE Use labels to cover knife case or other kitchen items, or make a collage on a kitchen wall. Or cover cans to hold wooden spoons.	
7-8.7.12	HE Study a commercial pattern and note that metric measurements are already printed on it.	403
7-8.7.13	IA Study history of auto design - relate metric issue to "foreign" cars.	

ACTIVITIES FOR COAL 7		USEFUL MATERIALS/EQUIPMENT
5-8.7.14	LA Write a paper tracing the progress of the metric system in the U.S.; in the world; how it was "invented"; the era which produced it.	1, 103, 181, 406, 441, 429, 185
5-8.7.15	LA Use role playing to dramatize some of the major events in metric development.	185, 119
5-8.7.16	MA What mathematicians had a part in developing the metric system? Why have they been so willing to "change over"?	150, 119
7-8.7.17	PE Research when the Olympics began using the metric system.	
5-8.7.18	SS Development of the metric system in U.S. Time line to include (a) made legal in U.S. in 1866 by Congress (b) Bureau of Standards adopted it in 1893 (c) John Q. Adams advocated adoption in 1821. (Visually displayed and compared to International Time Line.)	103, 119, 125, 181, 185, 406
5-8.7.19	SS International development of metric system. Time line to include (a) legal adoption by France in 1799 (b) compulsory in France 1837 (c) SI International 1960.	119, 185, 190, 125
7-8.7.20	SS Uses of SI in U.S. industry, military, research, etc.	172, 175, 140, 1
7-8.7.21	SS Uses of metric system in the world today. Use outline map of world. Color those that use metric system now. (Part of map color study.)	441, 172
7-8.7.22	SS Uses of SI in U.S. science unit on Space and Solar System. Note all government scientists use metric system, particularly NASA.	172, 175
7-8.7.23	SS Uses in U.S.: Unit on Oceanography. National Ocean Survey uses metric system.	
7-8.7.24	SS Development of measurement systems in U.S. Exploration and Discovery Unit. Discuss what units used by early settlers - effect of English supremacy on choice of units.	441, 189

ACTIVITIES FOR GOAL 8		USEFUL MATERIALS/EQUIPMENT
5-8.8.1	Students view films and filmstrips that emphasize qualities of metric system.	441, 405, 89, 181
6-8.8.2	Compare our base ten dollar with the base ten concept of the metric system.	89, 145, 181, 192, 405, 886, 887, 888
5-8.8.3	MA Use a cross-number puzzle for multiplication and division of decimals.	4, 6
6-8.8.4	Measure the length of an object in the classroom in inches and fractions (Note: the teacher should choose the object in advance to insure uneven measurement.) Divide the space into 5 equal parts; measure them to check accuracy of the math. Re-measure in centimetres (and millimetres) in decimal notation. Do the corresponding division. Check by measuring the 5 parts.	727
ACTIVITIES FOR GOAL 9		
6-8.9.1	Students read current publications, make oral reports on any metric usage found.	68, 150
7-8.9.2	Note and record conversion paractices in his society.	
7-8.9.3	Students set up model conversion station in classroom, showing effect of change on some familiar item.	938, 68
6-8.9.4	Use filmstrips.	441, 429, 416
6-8.9.5	Role play reactions of people to change. Discuss how change can be facilitated in our community.	
7-8.9.6	Use News Media (newspapers, magazines, T.V., etc.) This may be done as a research project, with written reports on findings.	
7-8.9.7	Class divided into groups to research the metric language of these industries: medicine, electronics, space, optometry, ship building, farm equipment manufacturing, photography, cigarette industry.	88, 150, 189

ACTIVITIES FOR GOAL 9		USEFUL MATERIALS/EQUIPMENT
6-8.9.8	Brainstorming sessions on how international relations could be improved, how international cooperation in space exploration will be facilitated by the use of the metric system in the U.S.	68,150, 189, 402, 403, 409, 441
7-8.9.9	FL Literature of the other country will be used to emphasize that the people of other countries do use the metric system now.	
7-8.9.10	FL Stress instances when books or other publications show metric usage, such as stories of travel, buying food, pictures of markets, gas stations, highway signs.	
7-8.9.11	FL Use travel materials from other countries.	
7-8.9.12	HE Will the metric system promote greater exchange of patterns? Fashions? Recipes? Will it really affect life styles?	
7-8.9.13	IA Compare difficulty of changing systems in agriculture, shop, construction.	1
7-8.9.14	LA Discuss possible effects on world of the better understanding possible with common measurements.	
7-8.9.15	LA Write an imaginary history of how man has measured his "wealth" in possessions.	
7-8.9.16	MA Will the change to metrics mean people need different mathematical knowledge?	
7-8.9.17	PE P.E. is a "social" activity. Will adoption of a common measuring system make it easier to understand the games of other countries? Will international competitions be encouraged? Will it be fairer?	150, 441, 189
7-8.9.18	SC Trace use of metric system by scientists. They were among first to adopt it in this country. Why? When? With what result? Is it partly responsible for our advancing scientific knowledge? Our modern technology?	
7-8.9.19	SS Effect on Economics: panel from local industries to speak to all students on grade level.	

ACTIVITIES FOR GOAL 9		USEFUL MATERIALS/EQUIPMENT
7-8.9.20	SS Examine the economic reasons the U.S. has postponed the adoption of the metric system.	1
7-8.9.21	SS To understand the history of metrics by looking at ways early man used measurements: (a) the Chaldeans (b) the Egyptians (c) references in the Bible.	441
ACTIVITIES FOR GOAL 0		
4-8.0.1	Use measurement center to show a comparison of metre and yard, centimetre and inch, litre to quart, kilogram to pound, Celsius to Fahrenheit.	931 - 954 (any on hand)
4-8.0.2	We do not want conversions here, but comparison between systems of measure: litre with quart, metre with yard, gram with ounce, kilometre with mile.	
4-8.0.3	Let students make their own charts comparing metric and English measures. Pupils will interpret the charts.	
4-8.0.4	LA Stress referrents for metric terms and only gross comparisons: 3 miles → 5 km, 1 quart → 1 litre, 1 yard → 1 metre, 2 pounds → 1 kg, 1 inch → 2½ cm. The key word is "about," not "equals."	
4-8.0.5	MA Each student measures his height and weight to see the difference metrics will make for him - he will no longer way is is 4'11" tall and so forth. Discuss comparable statements in two systems.	
4-8.0.6	PE Compare running a mile with running a kilometre, running 10 yards with running 10 metres. Measure off some comparable courses and run them.	13
4-8.0.7	SS Measure distances on two maps of the same country, one with metric scale and one with English. Are they the same? Are the scales always accurate: Which could you rely on?	744

ACTIVITIES FOR COAL 0		USEFUL MATERIALS/EQUIPMENT
4-8.0.8	PE Using the scale model of a football field (10 yds. = ½ in.), find the size of the field in feet. Measure the field in metres. What is the metric scale? Will football "convert"?	
6-8.0.9	Use an electronic calculator-converter with programmed metric - English conversions to find comparable cm — inch measures. Make a list or chart of findings. Check by a dual-scaled tape measure or metre stick (these are also "converters").	931
7-8.0.10	Do exercises similar to 0.8 using a calculator <u>not</u> programmed to convert, and a list of conversion factors. Stress changing <u>to</u> metric measure.	935, 937

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CLASSIFICATIONS

Ac	Activities
AC	Activity Cards
B	Background
Bib	Bibliography
CA	Cassette
Cat	Catalogue
Ch	Chart
Co	Conversions
C/S	Color Sound Film
Cu	Curriculum
FS	Filmstrip
Ga	Games
I	Instructional
K	Kindergarten
NM	Not Metric
M	Measuring Tools
MA	Masters - Duplicating
P	Poster
Pro	Programmed Instruction
Rec	Record
TE	Teacher's Edition
TG	Teacher's Guide
TR	Transparencies
TS	Teaching Strategies
W	Workbook

CODE INTERPRETATION

1. Not suited for our purpose - yours may differ.
2. Useful, but you should preview.
3. Recommended if budget is generous.
4. Recommended even on limited budget.
5. Excellent - borrow the money.

No.	Title of Publication	Author	Type	Teachers	Sr. Hi/ Adult Ed.	Jr. Hi.	Intermediate	Primary	Date	Publisher/ Producer	Supplier	Approximate Cost (1975)
1	A Metric America	De Simone	BI	5	5	5	4	3	1971	336		2.25
2A	Activities Handbook for Teaching the Metric System	Bitter	Ba Ac Cu	5	5	5	5	3	1976	17		11.95
2B	Activities To Go Metric Book A	Bright	W Ac					3	1975	300		1.50
	Book B		W Ac				3					1.50
	Book C		W Ac			3						1.50
	Teachers Guide			3								1.80
3	Amazing Story of Measurement	Lufkin	Comic Book	5	4	4	5	4	1973	69		free
4	Amusements in Developing Metric Skills	Clack	Ac	5	5	5	3	3	1973	214	362	3.75
5	Area Measurement	MINN	W NM			4			1971	220		
6	Arithmapuzzles (Metric)		W	3	2	3	2	2	1973	138		2.75
7	At Home With Metrics	MAB	I		4				1974	203		
8	Basic Training Guide To The New Metrics and S.I. Units	Sellars	I Co	1	3	3			1972	241		4.95
9	Bigger and Smaller	Froman	BA				3	5	1974		198	5.40
10A	Behavioral Objectives Guide for Individualizing MSM K-6	Duncan	Curriculum						1972	157		1.65
10B	Bismarck Metric Program		Cu Ac TS				5	5	1976	389		
11	Books That Count	NYSD	Bib	4								
12	Building Arithmetic Skills with Games	Corle	Ga NM	2		2	3		1973	168	319	1.50
13	Celsius Thermometer, The	Shimek	Ba	5		4	5	5	1974	189		4.75
14	C-6 Goes Metric Grade 1	Drda	Cu	5					1974	55		1.25
	Grade 2											1.25
	Grade 3											1.75
	Grade 4											1.25
	Grade 5											1.75
	Grade 6											1.75
	Jr. Hi Science Gr. 7-9											1.25
	Jr. Hi. Math											1.25
	Inservice Workshop											1.75
	Industrial Arts								1975			1.25

No.	Title of Publication	Author	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
15A	Catalogue of Metric Instructional Materials	Carr	Bib	5					1974	22		2.00
15B	Cheap Metric Equipment, Activities and Games	Buckeye	Ts Ac Ga	4					1976	214		3.95
16	Collection of Materials and Ideas on Metric Education	Brandou	Cu Bib	5					1974	363		3.00
17	Color Me Metric	Gould	Ac	3		3	3	5	1973	83	362	3.60
18	Contemporary Metrics	Haugaard	Ac	3		3	3		1973	68		4.95
19	Conversion Factors w/Metric Calculator	Texel	Co	3	3				1972	200		0.40
20	Continuing Metric Measure	Clifford	Cu Ac	4			5		1974	229		4.50
21	Conversion to the Metric System of Weights and Measures	CSA	Ba	4	4				1973	336		
22	Correlation of Activity-Centered Science and Mathematics (K-8)	Alberti	Cu	3					1972		10	8.50
23	Creative Math Experiences for the Young Child	Forte	W NM					4	1973		362	5.95
24	Daily Chores in Mathematics	Allen	Ac TS NM	4		4	3		1972	74		3.00
25	Decimal Numbers, Adding and Subtracting	MINN	W NM			3	3		1973	219		0.70
	Decimal Numbers, Multiplying		W			3	3					0.70
	Decimal Numbers, Dividing		W			3	3					0.70
	Decimal Numbers, Dividing and Rounding		W			3	3					0.70
26	Developing Mathematical Awareness in Pre-kindergarten Children	NYSD	Cu NM	4					1968			
27	Developing Math. Processes Scope & Sequence Chart		Cu	3					1974	271		
28	Discover New Ways	Hamilton	Ac Ga NM	3			3	3	1972	83		4.95
29	Discovery, Beginning	Champion	Ac Ga NM	3			3	3	1973	83		4.95
30	Discovery, Planning	Hamilton	Ac Ga NM	3			3	3	1971	83		3.95
31	Discover - Why Metrics		Ba I Cu	3			3		1972	323	100	3.00

No.	Title of Publication	Author	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
32	Educator's Guide To Teaching Metrication	Sears	St Ac	5	5	5	4	4	1974	303		
33	Early Childhood Metric Fun Book (K-3)	Long	Ac	5				5	1974	327	362	4.95
34	Experiencing Life Through Mathematics I	Usher	I	1					1975	257		2.25
35	Experiences in the Metric System	Johnson	W I	4	4	4			1974	28		2.75
36	Exploring Metric Measure	Clifford	Cu Ac	4				5	1973	229		3.95
37	Exploring The Metric System	Kempf	W Ac	5	5	4	5		1973	182		0.48
38	Everyday Metrics	Fearon	Ba I W	5	5	4			1974	357		2.25
39	Fabric of Mathematics	Laycock	Cu Ac	3			3	3	1971	10		13.75
40	Fractions Unit 2	MINN	W NM			3	2		1972	220		1.50
	Unit 3		W			3	2					1.50
	Unit 4		W			3	2					1.50
	Unit 5		W			3	2					1.50
	Unit 6		W			3	2					1.50
41	Fun and Games With Metrics	Haugaard	Ac Ga Ba	4	4	4	5	5	1974	267	174	5.95
42	Fun With Metric Measurement	Long	Ac	5		5	3	4	1973	327	319	5.00
43	Fundamentals of Dimensional Metrology	Busch	I		2				1966	85		7.80
	Teacher's Guide			2								1.25
44	Games and Aids for Teaching Math	Schreiner	Ac NM	3					1972	83		5.00
45	Games and Aids for Teaching Math, More	Schriener	Ac NM	3					1973	83		4.00
46A	Going Metric	Bete	Ba I	5		2	2		1974	44		.25
46B	Going Metric PAL	Wallace	Pro Ac	4	4	4			1974	365		2.25
46C	Going Metric: Grades K-8 Guidelines for Mathematics Teachers		Cu TS	5					1975	235		1.50
47	Going Metric: An Analysis of Experiences in Five Nations and Their Implications for U.S. Educational Planning	Chalupsky	Cu Ba	5					1974	22		6.40
48	Gram It	Braun	Ac	3			3		1975	136		5.95
49	Gram, The	Shimek	Ba	4		4	5	5	1974	189		4.75
50A	Handbook for Metric Conversion	Johnson	Co		3	2			1973	160		4.25
50B	Hands On Metrics	Schein	Cu Ac						1975	390		
51	Happy Math	Chilcote	Ac TS NM	4				4	1972	301	362	12.95

No.	Title of Publication	Author	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
52	Happy Metrics I (Primary)	Blaine	Ba I Ac M	5			4	5	1975	302	362	14.95
	II (Intermediate)			5		3	4					14.95
53	How To Read Mathematics - From Lions to Legends	Jones	I Be W	5		3	4		1973	148		1.24
54	How To Speak Metric-ese	Bete	Be	3	3	3			1974	44		1.00
55	How To Think Metric	Bates	" I Ac		4				1974	70		
56	Idaho Curriculum Guide in Mathematics K-12	Briggs	Cu TS						1970			
57	I'm O.K. - You're O.K. Let's Go! Metric	Buckeye	Ac	4	3	3	4		1973	214		3.25
58	Improving Reading Study Skills in Mathematics K-6	NYSD	Cu NM						1972			
59	Individualize with Learning Station Themes	Godfrey	Cu Ac NM	4					1974	83		4.00
60	Individualizing Through Learning Stations	Godfrey	Cu Ac NM	4					1972	83		3.50
61A	Information on the Metric System & Related Fields	Lange	Bib	5					1974	233		6.00
61B	An Individualized Laboratory Program for the Metric System 1. Student Modules 2. Teacher's Guide	Esler	I Ac		3				1973	179		2.29
62	Inservice Guide to Teaching Measurement (K-8)	CASD	I Ac Bib	5					1975			1.25
63	Insight into Metric Measurement	Parks	Ac	3		3	3		1973	254		2.00
64	Instructional Materials for Metric Education	Jones NCSD	Bib	5					1975			
65	Instructional Objective Catalogue	Westinghouse										
	Math K-3		Cu	3						354		6.00
	Math 4-6		Cu	3								6.00
	Math 7-8		Cu	3								6.00
66	Instructions to ASTM Technical Committees on Metric Conversion	ASTM	Ba Co	3						27		
67	International System of Units (SI) An Outline of Canadian Usage	CSA	I	4					1973	205		2.50

No.	Title of Publication	Author	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
68	International (SI) Metric System and How It Works	Hopkins	Ba I Co	4	4	4	3		1973	365		12.95
69	Interstate Consortium on Metric Education - Final Report	Tardiff CASD	Cu	5					1975			
70	Introducing Children to Math	Lawson	Cu Ac NM	4					1974	168	319	1.50
71	Introducing The Metric System	Spitzer	I Pro		2				1969	71		1.50
72A	Introducing The Metric System with Activities	Buckeye	Ac	4		4	3		1972	214		1.50
72B	Introducing Measurement	MINN	TS NM						1968	220		3.50
73	Introduction To The Metric System	Lohrenz	I Ac	5					1974	205		
74	Introduction To The SI Metric System	Tardif CASD	Cu Ac	5					1975			1.25
75	Kid's Stuff Math	Frank	Ac NM	5			5		1974		362	9.95
76A	Learning Centers - A Guide for Effective Use	Waynant	Cu Ac NM	3		3	4		1974	167		3.95
76B	Let's Cook It Metric	Read	Recipes Co	4	4	4			1975	379		5.00
77	Let's Discover Math (Set of 5)	(English)	Ac				3	2			188	17.50
78	Let's Go Metric	Donovan	Ba	3	4				1974	355		5.95
79	Let's Play Games in Metrics	Henderson	Ac Ga	5	4	4	3	3	1974	240	362	6.95
80	Let's Think Metric - HELP - Home Economics Lesson Plans	Cynewski	Cu Ac	5	5	5			1974	21		2.00
81	Let's Use the Metric System	NYSD	TS	5					1973			
82	Linear Measurement	MINN	W NM				3		1971	219		
83	Liquid Measurement	MINN	W NM				3		1973	219		
84	Litre, The	Shimek	Ba	3			3	5	1974	189		4.75
85	Long, Short, High, Low, Thin, Wide	Fey	Ba	3				5	1974		198	5.40
86	Making Metric Maneuvers	Miller	Ac Ga	2			4	4	1974	10	125	6.00
87	Math Dictionary With Metric Emphasis	Parks	I Co	2		2	3		1973	254		3.50
88	Math Is/I	Ebos	I	1					1975	243		6.65
89	Math Plus Metrics	Harder	W Ac	4		3	3		1973	68	362	5.50
90	Math With Metric Skillbuilding Workbook	Parks	W	3		2	3	4	1973	254		2.00
91	Mathematics K-6	NYSD	Cu	5		5	5		1972			.25

No.	Title of Publication	Author	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
92	Mathematics for Georgia Schools	GASD	Cu									
	Volume I Primary Grades								1971			
	Volume II Upper Elementary Grades								1971			
93	Mathematics in Everywhere (5 vol.)		Ac	5					1974	10		15.00
	1. Laboratory Laughter	Alberti										Set
	2. Math in Art	Taylor										
	3. Mathematics in Literature	Cornwall										
	4. Sports	McNichols										
	5. Word Ways	McNichols										
94A	Mathematics on Television	Perkins	Series Guide						1974			
	(Metric Segments)	NCSD										
94B	MatheMETRICS	Geer	Ac Ga	5		5	5		1975		362	3.50
95	Mathways	Chilcote	Ac	5			5		1973	302	362	12.95
96	Mathways 2	Bates	W I			4	5		1974	70		
	Teacher's Guide											
97	Measure for Measure: a Guide for Metrication for Workshop Crafts and Technical Studies	Drda	Cu	5	5	5			1970		292	1.75
98	Measure Metric Book A (3)	May	W				3	3	1974	146		1.44
	Book A Te											1.50
	Book B (4)		W			3	3	3				1.44
	Book B TE											1.50
	Book C (5)		W			4	3					1.44
	Book C TE											1.50
	Book D (6)		W			4	3					1.44
	Book D TE											1.50
99A	Measurement - Booklet #15	NCTM	Ba TS	4			4	4	1968	235		0.85
99B	Measurement, Meteorology and Astronomy Vol. 1 and 2	Schaefer	I	1					1962	140		13.50
99C	Measurement with Metric	ORSD	Cu TS				5		1974			
100	Measuring a la Metric	Parks	W Co	2			2		1973	254		4.00
101A	Measuring Metric Book 1 (K-3)	Cherrington	W Ac					4	1974	357		2.25
	Book 2 (4-6)		W Ac				4					2.25
101B	Measuring with Reference Units	MINN	W TG NM					3	1968	220		4.50

No.	Title of Publication	Author	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
102	Medications & Mathematics for the Nurse	Delmar	W I	3					1975	85		4.05
	Teacher's Guide											1.25
103	Meet the Metric System	EdMediaTec	Ba Bib	5		4	4		1974	99		1.50
104	Merry Metric Cookbook	Miller	Recipes					3	1974	10	362	3.00
105	Meter, The	Shimek	Ba	3			4	5	1974	189		4.75
106	Meter Means Measure	Hirsch	Ba		5	5			1973	343	128	4.95
107	Meters, Liters, and Grams	Buffington							1974	272		
	Grade 3		W Ac					5				1.35
	Grade 3 TE			5								1.41
	Grade 4		W Ac				4					1.35
	Grade 4 TE			5								1.41
	Grade 5		W Ac				3					1.35
	Grade 5 TE			5								1.41
	Grade 6		W Ac				3					1.35
	Grade 6 TE			5								1.41
	Grade 7		W Ac			4						1.35
	Grade 7 TE			5								1.41
	Grade 8		W Ac			4						1.35
	Grade 8 TE			5								1.41
108	Metres, Litres, and Grams	Sch. Coun.	Cu Ac	3			3		1971		292	1.35
109	Metric 1975	Delmar	I	2					1975	85		2.85
	Teacher's Guide											1.25
110A	Metric Activities	Luba										
	K-3 Teacher's Handbook		Cu Ac	5					1974	243		3.10
	4-6 Teacher's Handbook		Cu Ac	5								3.10
	Practical Activities for Introducing The Metric System in the Elementary Grades		Cu Ac	5								3.10
110B	Metric Book of Amusing Things To Do	Hallamore	Ac I				4	5	1974	381		1.95
111	Metric Ease	Barnett	Ac	5		2	5		1975	74		3.95
112	Metric Education	AIT	Cu						1974	15		
113	Metric Education: Voc., Tech., Adult Ed.,	Ohio St. Univ.	Bib	5					1975	62		10.00
114A	Metric Education Handbook	Ring	Cu Ac	4		4			1974		362	4.95

No.	Title of Publication	Author	Title	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
114B	Metric Encyclopedia	LeMariac		3	3	3			1975	6		10.00
115	Metric Exercises	NSTA	Ac (K)	4				4	1973	239		6.00
116	Metric Fundamentals Book 3 (7-10)	Fearon	Ba I Ac	3		3			1974	357		2.25
117A	Metric Geometry/1	Pettofrezzo	Ac	3		3			1973	148		0.81
	Teacher's Guide											0.27
117B	Metric Guide	Canada	Cu TS	4					1975	383		3.00
118	Metric Handbook for Educators	Rickey	Ba Cat						1975	198		free
119A	Metric Handbook for Teachers	Higgins	Ba Ac Cu	5					1974	235		2.40
119B	Metric Handbook for Teachers	W-W	Ba Ac	5					1975	388		3.50
120	Metric Inservice Teacher Training: Learning from the English and Australian Experience	Chalupsky	Cu	5					1975	22		7.00
121	Metric Made Easy	McAllister	I Pro	3	5	4			1975	242		1.98
122	Metric Manual	BBP	Ba Co		3					362		0.37
123	Metric Math: The Modernized Metric System	Smart	I Ac	2	3				1974	49		3.50
124	Metric Math Modules	Saunders										
	Book 1 (Grade 3)		W					4	1974	243		1.50
	Book 2 (Grade 4)		W				4					1.50
	Book 3 (Grade 5)		W				4					1.50
	Book 4 (Grade 6)		W				4					1.50
	Teacher's Guide											2.50
125A	Metric Measure	Zim	Ba	3		3	5		1974	223		4.14
125B	Metric Measure	Byrne	I M Unique	5					1972	173		0.50
126	Metric Measure Simplified	Wilderman	W Cu Ba	3			3		1974	268		3.50
127	Metric Measurement - Mathematics Basis Skills Development Project	Hestwood	W Ac			3	5		1972	220		0.70
128	Metric Measurement	Cortese	W I Ac Co	3	3	3	3		1974	19		1.25
129	Metric Measurement I - Linear	Hestwood	Ac	4		4	5		1974	197		3.95
	Metric Measurement II- Capacity, Mass & Temperature	& Orf	Ac	4		4	5					3.95
130	Metric Measurement: Activities and Bulletin Boards	Trueblood	I Cu Ba	4		4	4	4	1973	168		1.50
131	Metric Measurement Activity Cards	NCTM	Ac	5		2	4	3	1974	235		2.00
132	Metric Measurement Manual	Willert	W				4	4	1973	256		1.75
	Teacher's Edition											2.75

No.	Title of Publication	Author	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
133	Metric Mice - Area	Hiatt	Ac	5		5	5	5	1974		362	16.95
	Length		Ac	5		5	5	5				Set
	Weight		Ac	5		5	5	5				
	Volume		Ac	5		5	5	5				
	Teacher's Guide		Cu Ac	5								
134	Metric Multibase Mathematics	Holmberg	Ac	3				3	1974	10		5.00
135	Metric Practice Guide	ASTM	Ba Co	3	4	2			1973	27		1.50
136	Metric Resource Guide (1-8)	Ranney	Cu	5					1974	260		1.00
137	Metric Supplement to Science and Mathematics	Helgren	W		4	3			1967	161		0.75
138	Metric System	STEM	W Ac	5			3		1974	11		2.10
139	Metric System	Shimek	Ba	3		4	4	5	1974	189		4.75
140	Metric System: A Programmed Approach	Ploutz	I Pro	2	2				1972	202		2.95
141	Metric System: A Teacher's Guide (K-9)	HASD	Cu Ac						1974			
142A	Metric System: A Unit for High School	Vonatta	I Ac		4	3			1975	272		1.75
	Teacher's Edition											2.25
142B	Metric System and SI	S-W	Ba Ac Bib	5	5	5			1974	288		1.50
143	Metric System Simplified	Kelly	Ba I Co		3	4			1974	318	128	4.00
144	Metric System Kit	ANSI	Ba	3	4				1973	24		10.00
145	Metric System of Measurement	Holmberg	W Ac I	5		3	5		1973	10	125	4.50
146	Metric Unit	TS	Ac	4					1973	331		1.00
147	Metric Units of Measure	MAI	Ba I			5			1972		161	0.40
148	Metric Workshop For Teachers	Cherrington	W	4					1974	357		2.25
149A	Metrication, American Style	Izzi	Ba	5	5				1974	364		0.50
149B	Metrication: Education Takes The Lead		Ba	3					1975	177		12.00
149C	Metrication for Engineers	SME	I	3	5				1975	311		9.50
150	Metrication Handbook	Keller	Ba I Bib	4		4			1974	177		10.00
151A	Metrickery Thru Learning Centers	Gellis	Ac	3			3	3	1974		362	7.95
151B	Metrics	Loose	W			4	3		1975	378		2.00
152	Metrics for Home Use Book 4	Massey	W Ba I	5	5	5			1974	357		2.25
153	Metrics Kit	ASTM	Ba	2					1973	27		5.95

No.	Title of Publication	Author	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
154	Metrics Made Easy Book 1	Maxey	W Co I		2				1973		208	1.00
	Book 2		W Co I		2							1.00
155	Metrics Made Easy - Teacher's Resource Guide	Bletscher	Cu Ac Bib	5					1974	245		5.00
156A	Metrics (SI) for the Secondary Classroom	LAUSD	I Ac	5	5	5			1975	387		
156B	Metrify or Petrify (ATV Text)	LAUSD	W Ac	5	5				1974	387		
157A	Metrikit Minicourse	Harkness	I Ac	2					1973	147		2.95
157B	Modern Metric Math - K	West-East	W I Ac					3	1972	353		3.95
158	NBS Metric Kit	USDC	Ba I	5	5	5	5		1974	336		2.00
159	Neater By the Meter	Glaser	I	4	4	3			1974	130		3.50
160	Nevada Elementary Course of Study	NEVSD	Cu						1974			
161A	Number and Numeration	NYSD	Cu NM						1964			
161B	Numbers and Measuring/TM	MINN	W/TM NM						1968	220		4.50
162	Operations: Basic Number Processes	NYSD	Cu NM						1964			
163	Operations with Fractions	NYSD	Cu NM						1965			
164	Pickett Teaching Guide for Slide Rule Instruction	Hartung	I NM	1	4				1960	262		
165A	Practical Problems in Mathematics- Metric System	Schell	W I		2				1975	85		
	Teacher's Guide								1975			
165B	Precision - A Measure of Progress	GM	Ba	3	5	5			1952	127		
166	Prepare Now for a Metric Future	Donovan	Ba	3	3				1970	355		5.95
167	Preparing Now To Go Metric	Chalupski	Ba	5					1975	22		6.00
168	Problem Solving	NYSD	Cu NM						1966			
169	Recommendations for Equipment for Teaching the Metric System of Measurement	Allen	Guide to Equipment	5					1974	315		2.50
170	Reference Handbook for the Proper Useage of Metric SI in Science and Engineering	Sellars	Ba I Co	2	2	2			1974	306		1.95
171	Riddles Number Puzzles	Silvani										
	Book A (Metric)		W				3		1974	75	362	3.95
	Book B (Metric)		W				3					3.95
172	SI Metric Reference Manual	IBM	Ba	3	4				1973	169		1.40
173	SI Metric Style Manual	IBM	Ba	3	4				1973	169		0.50
174	SI Metric System and How It Works	Hopkins	I	3		3			1973	265		12.95

No.	Title of Publication	Author	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
175	Si Metric Units An Introduction	Adams	I Ba	2								
176A	SI Metric Workbook for Teachers of Consumer and Homemaking Education	Bielefield	Cu Ac	5	5	5			1973	299		2.95
176B	Bibliography of the Metric System	SME	Bib						1973	251		1.50
177	Skill Games for Mathematics	Corle	Ca Ac NM	2	5	2			1975	311		4.75
178	Swing To Metric, The	GM	Ba	3	2				1972	168	319	1.50
179A	Teacher-Made Aids for Elementary School Mathematics	Smith	Ac	3						127		
179B	Teacher Training in the Metric System	Chalupsky	TS	5					1974	235		2.40
180A	Teacher's Guide To The Metric System	LeMariac	Co Ba	2		3	3	3	1975	22		
180B	Teaching Secondary School Mathematics	Henderson	TS NM	5					1974	6		8.95
181	Teaching The Metric System	Henry	Cu TS Ac	5		5	5	5	1969	235		0.25
182	Teaching the Metric System - A Resource Book for Australian Teachers	Salt	Ba Ac	4					1974	252	319	1.50
183	Think Metric	S-W	W I Ba		4				1972	Aust.	208	3.50
184	Think Metric	Armbruster	W I Ac	4		4	5		1975	313		1.50
185	Think Metric	Branley	Ba			5	5	3	1974	333		1.50
186A	Think Metric	Kapp	I	2					1972	76	74	4.50
186B	Think Metric Now	Hartsuch	Ba I			3			1973	63		2.50
187A	Thinking Metric	Gilbert	I Pro	4	4	2			1974	382		2.64
187B	1 To Get Ready	NCTM	Bib	5					1973	356	74	2.95
	2 To Get Set	NCTM	Bib	5					1973	235		0.20
188	U.S.: Moving Inch by 2.54 cm To Metric System	Willens	Reprint	3		2			1975	235		0.50
189	USA Goes Metric	Beloit	I Ba	3	4	4			1973	69	74	
190	Understanding The Metric System	Miller	I Pr		2				1970	323		1.00
191	United States and The Metric System	Holt	Ba	5					1974	17		2.00
192A	Use Metric (Activities for Parents)	LAUSD	Ac						1973	119		
192B	Using The Metric System	Kempf	U	4	4	4			1974	387		
193	Using The Metric System	Rollins	I Co	3	4	3			1973	182		0.54
									1974	347		3.00

No.	Title of Publication	Author	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
194	Veritech First Math Book	(English)	W					1	1972		111	14.40
	Second Math Book		W					1				Set
	Third Math Book		W					1				
	Intermediate Fourth Math Book		W					1				
	Math Book		W					1				
	2 Math Book		W					1				
	Base Three Numeration	Charbonneau	W					1				
	Base Four Numeration	Charbonneau	W					1				
195	Volume Measurement	MINN	W NM	3		3	2		1973	219		1.50
196	What About Metric	Barbrow	B I	5	5	5	4		1973	336		0.80
197	What Everyone Should Know About Measurement	Burns	B I	4	4	4	4		1966	44		1.00
198	Willbrook Discovery Set Metric	(English)		3			3	4	1973		111	14.40
	Length Book 1		I Ac									Set
	Length Book 2		I Ac									
	Mass Book 1		I Ac									
	Mass Book 2		I Ac									
	Volume and Capacity		I Ac									
	Time Book 1		I Ac									
	Time Book 2		I Ac									
199	You and the Metric System	Stover	Ba I		4	4			1974	91		4.50

No.	CHARTS AND POSTERS	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
301	Beginner's Metric System Poster Cards	MB	6 P, TG				4	5		217	174	4.00
302	Learning to Measure in Metric Units Teaching Pictures	Cook	16 Pict.	3	3	3	3	3	1975	367		3.95
303	Metric Chart	Sargent-							1973	288		
	Wall Size	Welch		3	5	3						8.75
	Notebook Size (100)			5	5	4						10.00
304	Metric Circus						3		1974		362	3.95
305A	Metric Diplomas	Math Group	pkg. of 30				5			197		1.50
305B	Metric Fun Poster Games	Long	set of 3				3		1975	362		3.50
306	Metric Machine and Tool Chart	Brodhead			4	3				48		2.25

No.	Charts and Posters	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
307	Metric Measure Simplified	Prindle	TG, Ac			5				268		3.50
308	Metric Mobile	Trend						3	1974	332	362	5.95
309	Metric Place Value Chart	Ideal		5	4	4	5	5	1974	161		2.80
310	Metric Posters	MEA							1974	226		
	Metric System						3					5.00
	Metric Concept						3					5.00
	Metric Meals			3	5	5	5	3				5.00
	Metric Map			3	5	5	5	4				5.00
	Metric Weather											
	(Notebook Size: 40/2.50)											
311	Metrication and Domestic Science	Metric-Aid	1, plastic			2				204	45	3.70
312	Metric System Posters	Instructor	13 P	3	4	3	3	4	1974	168		3.95
313	Metric System Notebook Divider Charts	Real-T-Facs	set of 3	3	3	2				275		0.75
314	Metric Wall Chart	Real-T-Facs			3					275		2.00
315	Metric Wall Posters	Brodhead	10 P		3	3	3		1974	48		3.50
316	Metric Wall Posters	Creative	4P	5		5	5	4	1974	74		5.75
317	Metric Wall Posters	Beloit	2P			3	3	3				
318	Miss Polymetric Chart	PM	1P	5					1972	265		1.95
319	"Think Metric" Bumper Stickers	NCTM	pkg of 100	5	5	5	5	5		235		9.00
320	"Join the Metric Revolution"	Enrich	Iron-on			4	5	4	1975	115	362	0.25
	GAMES											
351	Decimal Multiples	Great Ideas	NM	2					1973	138		6.50
352	Decimate 'em	Peterson	NM	2					1972		35	2.00
353	Decimeter	Lawhead		4		4	5		1974	186		11.00
354	Educational Football-Metric	Teech-um				3	5		1974		144	9.95
355	Made To Measure						3	3			188	4.75
356	Match-Metric Games	Math Group	Cards	3		3	3	3	1974	197		3.00
	Match-A-Gram											Set of 3
	Match-A-Liter											
	Match-A-Meter											

No.	Games	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
357	Merry Metric Spinner Games	CTA	set of 3	3		3	3		1974	75		3.50
358	Metric Area Set	Philograph					3				111	4.80
359	Metric Dial Games	Ideal		3		4	4		1974	161		
	Metric Auto											2.25
	Metric Freeway											2.25
	Metric Kitchen											2.25
	Metric Market											2.25
360	Metric Ladder Game	Kent				3	3		1974	179		7.95
361	Metric Match Game	Ideal				3	3			161	144	3.25
362	Metric Spinner Games	CTA		3		3	3		1974	75		6.95
	Spin a Meter											Set of 3
	Spin a Liter											
	Spin a Gram											
363	Metric 21	Math Group	Cards	4		4	3		1974	197		1.95
364	Metricat 10 n	Metrix				5	4		1973	213		10.00
365	Mix-n-Match Puzzles	Trend	Set of 25	5		3	3	5	1974	332		
	Metrics											2.95
	Visual Metrics											2.95
	Telling Time											2.95
	Small, Medium, Large											2.95
366	Metrix Match	Metrix		5		5	4	3	1975	213	362	5.95
367	Blank Playing Cards			3							94	0.90
368	Metrix Derby Games	CTA					3		1974		362	5.95
	FILMS AND FILMSTRIPS											
401	A Metric America	AIMS	16mm C/S	5	5	5	4		1973	16		230.00
402	A Metric America	AIMS	6FS/6CA	5	5	5	4		1973	16		102.00
	401 and 402 as a set											295.00
403	At Home With Metric Measurement	Butterick	1FS/1CA Kit M		3	3			1975	53		75.00
404	Beginning Metric Measurement	SVE	6FS/6CA				3	4	1974	308		134.50
	1. Length		TM, M									
	2. Length: Centimetres		KIT									

No.	Films and Filmstrips	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
	3. Length: Decimetres and Metres 4. Area: Square Centimetres 5. Volume: Cubic Centimetres 6. Length, Area, and Volume											
405	Decimal Workshop	Coronet	8 Ca W NM			4	3		1974	71		70.00
406	English or Metric? That Is The Question (Same as SVE)	Clearvue (see 419)	4FS/2CA TG	3	4	3	3		1973		308	
407	First Things: Measuring The Metric Way 1. Length 2. Mass, Capacity	Guidance Associates	2FS/1CA TG			3	4		1973	142		24.50
408	Going Metric - Metric Olympics	Scholastic Dimension	1FS/1CA 1Rec./AC	5			5		1974	293		32.65
409	Implications of Metric Change	Teach 'em	2CA		3					326		20.00
410	International System of Units (Same as SVE)	Clearvue (see 411)	4FS/2CA TG	4	4	3			1973		308	
411	International System of Units 5. Introduction to the International System of Measurement 6. Metric Units: Time & Temperature 7. Metric Units: Mass & its Derivatives 8. Metric Units: Electric Current, Luminous Intensity, Substance	SVE	4FS/2CA	4	4	3			1973	308		54.00
412	Introducing the Metric System 1. The Meaning of Metric 2. Measuring Length 3. Measuring Volume & Mass 4. Converting To Metric	BFA	4FS/4CA TG, AC	3		3			1972	34		52.00
413	Learning To Measure in a Metric World A. Why do we measure? B. How tall, how far & how fast? C. How much can it hold? D. How much does it weigh?	Eye Gate	4FS/2CA Audio			4	5	4	1973	117		38.85
414	Length	Milton Bradley	2FS/1CA 21 AC M			3	3		1974	217	174, 272	20.00

No.	Films and Filmstrips	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
415	Liquid Capacity	Milton Bradley	2FS/1CA 21 AC M			3	3		1974	217	174, 272	20.00
416	Mastering the Metric System 1. Learn It or Leave It 2. Metric Lengths 3. Weight and Volume	CER	3FS/3CA TG			3			1974		369	50.00
417	Measurement Skills: Centimetres and Decimals	Britannica	1FS/1CA TG AC	3			3		1972	114		32.00
418	Measurement Skills: Inches and Fractions	Britannica	1FS/1CA TG AC	3			1		1972	114		32.00
419	Metric or English? That is the Question 1. History of the English System 2. History of the Metric System 3. Characteristics of the Metric System 4. Why Go Metric?	SVE	4FS/2SA TG	3	4	3	3		1973	308		40.50
420	Metric Song, The	Penny's	1FS/1CA	5		4	5	5	1974	366		6.00
421	Metric Songs	Great Id.	1CA					4	1974	138		9.50
422	The Metric System - Teaching 3rd and 4th Graders 1. The Meter 2. The Liter 3. The Kilogram 4. The Centimeter	Bruce	4FS/4CA	4			3	5	1975	50		79.50
423	Metric System Individualized Cassette Learning Package (Series of 10 topics)	Med. Mat.	1CA, 1TG AC Tests			4	4	3	1973	201		99.50
424	Metric System for the Intermediate Grades Set 1 1. Units of Length Shorter Than A Metre 2. Units of Length Longer Than a Metre 3. Metric Units of Area 4. Metric Units of Volume	Pathescope	4FS/4CA TG				4	4	1973	255		66.00
425	Metric System for the Intermediate Grades Set 2 1. Metric Units of Capacity 2. Metric Units of Mass or Weight	Pathescope	3FS/3CA TG				4	4	1973	255		50.00

No.	Films and Filmstrips	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
	3. Relating Length, Capacity & Mass or Weight											
426	Metric System Teaching Tapes	Houghton-Mifflin	6CA, TG	5		3	5		1973	157		48.00
	1. Measuring Length in the Metric System											
	2. More on Measuring Length in the Metric System											
	3. Measuring Area in the Metric System											
	4. Measuring Capacity/Volume in the Metric System											
	5. Measuring Weight in the Metric System											
	6. Reviewing the Metric System and Temperature											
427	Metric System - The Universal Language of Measurement	Pathescope	6FS/6CA TG	2	2	2			1974	255		95.00
	1. An Introduction to the Metric System											
	2. Metric Units of Length											
	3. Metric Units of Area and Volume											
	4. Metric Units of Mass											
	5. Metric Units of Capacity											
	6. Metric Units in the Science Laboratory											
428	Metric Weights and Measures/ Metric System of Measurement	Library Filmstrip	1FS/1CA			3	4		1975	190		23.00
429	Metric World	Coronet	6FS/6CA TG	4		4			1974	71		76.00
	M287-1 The Decimal System											
	M287-2 Units of Length											
	M287-3 Units of Area											
	M287-4 Units of Volume & Capacity											
	M287-5 Units of Mass											
	M287-6 Other Measurements											
430	Picturing Metrics	BFA	4FS/4CA					4	1974	34		66.00
	1. A System for Measuring											
	2. Measuring Length											
	3. Measuring Volume											
	4. Measuring Weight											
431	Ready Go Metric	Ed. Act.	2FS/2CA TG				4	5	1974	103		29.95

No.	Films and Filmstrips	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
432	Telling Time	Britannica	4 parts AC					2	1970	114		89.00
433	Think Metric 1. Basic Prefixes 2. Length 3. Weight 4. Capacity	Ed. Act.	4FS/4CA TG			3			1973	103		49.90
434.	Think Metric	EPI	2FS/2CA				3			108		29.00
435	Think Metric: Understanding and Using the Metric System	Denoyer-Geppert	80 Slides	5	5	4			1974	87		69.50
436	Thinking Metric A. Why Metric? B. Length, Width, Height, & Speed C. Volume & Capacity D. Mass & Weight	Eye Gate	4FS/2CA	4			4		1973	117		42.65
437	Understanding The Metric System 1. Think Metric 2. The Fabulous Golden Pretzel 3. The Golden Metric Pretzel Co.	CER	3FS/3CA TG,Test			3			1974		369	50.00
438	Understanding The Metric System 9. What is Measurement? 10. Measuring Distance 11. Measuring Weight and Mass 12. Measuring Volume	SVE	4FS/4CA	4		4	4	3	1974	308		40.50
439	Weight	Milton Bradley	2FS/1CA 21 AC			3	3		1974	217	174, 272	20.00
440	What About Metric	NBS	70 slides 1CA (Adult)	5	5					336		12.00
441	Why Go Metric? 1. Man and Measurement Why? 2. Man and Measurement How? 3. Man & Measurement A Better Way for All	See Hear Now! (Bro-dart)	4FS/2CA TG	5	5	5	4	4	1974	304	47	64.00
442	Metric Measure Made Easy	AIMS	C/S 16mm	5	4	5	5	5	1974	16		220.00
443	Living Metric	Eye Gate	4FS/2CA			3			1975	117		44.50
444	Metrikit	C. Merrill	1FS/3CA TG 8AC W			3			1974	202		59.95

No.	Films and Filmstrips	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
445	Using The Metric System - Problem Solving and Computation 1 & 2 Meter 3 & 4 Gram 5 & 6 Liter	Knowledge Aid	6FS/6CA TG AC			4			1974	181		75.50
446	Think Metric (w. Metricat) 1. Introduction to Units of Measure 2. Linear Measure 3. Volume Measure 4. Weight 5. Area 6. Comparison	Filmstrip House	6FS Captioned			3					371	36.00
447	Think Metric 1. Meter 2. Liter 3. Kilogram	Film Forum	3FS/3CA								370	48.00
448	It's A Metric World 1. Celsius Scenes 2. Mass Matters 3. Lengthy Tales 4. Square Stories 5. Cubic Concepts 6. Capacity Counts	Addison-Wesley	6FS/6CA 6 TG				4	3	1975		11	96.00
449	Modern Measure: The Metric System An Overview of Metric Measurement 1. Development and Impact 2. Length, Area and Volume 3. Mass, Temperature, Time	Schloat/ P-H	3FS/3CA TG 30W	4	5	4			1975	291		97.00
	SI Metrics In Science		1FS/1CA TG									
450	Metric System of Measurement 1. History of Measurement 2. Measuring Length 3. Measuring Weight 4. Measuring Volume	LRC/EDC Imperial	4FS/4CA				3	4	1974	106		57.95

No.	Films and Filmstrips	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
451	Using The Metric System 1. Measuring Length 2. Measuring Capacity 3. Measuring Mass 4. Measuring Temperature 5. Calories 6. Metric Tools	UEVA	6FS/6CA			5			1974		380	78.00
452	Understanding The Metric System 1. Introducing the Metric System 2. Measuring Length 3. Measuring Weight and Volume	Educational Filmstrips	3FS/3CA Captioned w/sound			4			1975	385		36.00
453	Metrics Made Easy Metric Cooking Made Easy Metric Sewing Made Easy	Franklin Clay	3FS/2CA						1975	386		36.00
454	Metrikit - 1974	Addison-Wesley	1FS/2CA W TG M			3			1974	11		49.95
	KITS AND CARDS											
501	Beginners Metric System	MB	9 cards					3	1973	217	174	4.00
502	Centicubes Task Cards	Ramirez					5	5	1974	75		
	4230 Basic Addition-linear		24 cards									3.00
	4231 Volume and Surface Area		24 cards									3.00
	4232 Basic Subtraction-linear		24 cards									3.00
	4234 Patterns in Solids		24 cards									3.00
503	Cloudburst of Math Lab Experiments	Buckeye	900 AC NM			1			1971	214	10	
	Grades 2-4											3.15
	Grades 4-7											4.25
	Grades 7-9											4.25
	Grades 8-12											2.95
	Teacher's Manual											2.50
504	Cooking with Metrics	BHU	68 cards			3	2		1974	35		5.50
505	Cuisenaire Student Activity	Davidson	130 cards TG			4	3	3	1975	78		11.95
506	Decimal Set Workcards	LLS	14 cards				1				188	2.40

No.	Kits and Cards	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
507	Discovering Metrics Work Cards	Galt						3	1970		305	
	1. Weight		12 cards									3.75
	2. Length		12 cards									3.75
	3. Capacity		12 cards									3.75
	4. Volume		12 cards									3.75
	5. Area		12 cards									3.75
508A	Discovery Set-Metric System	Willbrook	174 cards					3	1973		111	55.00
508B	Environmental Geometry (photographic)	Kirk	16 cards	3	3	3			1972	10		2.95
509A	Guide to Adventure in Mathematics for the 70's	LLS	133 AC					3	1969		188	16.00
509B	Introduction to Area	Wentworth	Kit	4		4			1971		188	4.95
510	Introduction to Measuring - Metric	ETA	AC					3		111		5.90
511	Meter-Yard Charts	MB	12 charts					2	1972	217		3.50
512	Metric Activity Cards	Weber-Cos.				3	5	3	1974	352		
	804-146 Length and Area		6CA									3.95
	804-153 Liquid Volume		6CA									3.95
	804-153 Weight		6CA									3.95
513	Metric Box, The	Clewer	92 cards TG	5		3	5	5	1974		174	5.95
514	Metric Factory	Hestwood	30 cards	4		4			1975	197		2.95
515A	Metric Fun Activity Cards	Long		4					1974	327	362	
	Set A-Primary		45 cards			3	4	4				4.95
	Set B-Intermediate		45 cards			4	4					4.95
515B	Metric Fun Cooking Cards	Long	42 cards	4			4	3	1975		362	4.95
516	Metric Measurement Poster and Activity Cards - 7657	MB	12P 24AC M				4		1974	217	174	8.00
517A	Metricrods Task Cards	Great Ideas	18 AC				3		1974		362	with rods
517B	Metric Task Cards	Ramirez				4			1974	75		
	Linear Task Cards		24 cards									3.00
	Volume Task Cards		24 cards									3.00
	Weight Task Cards		24 cards									3.00
518	Metric Workshop	LLS				3	3		1972		188	
	I		32 AC									7.50
	II		40 AC									8.95
	III		32 AC									7.50

No.	Kits and Cards	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
519	Metrickery Thru Cooking	Gellis	45 cards Recipes Guide			5	5		1974		362	3.95
520	My First Recipe Cards - Metric	Leicester	12 AC				3		1971		188	3.25
521	Numerod Activity Cards (98-8752)	Mead	22 AC					3		33		4.00
522	Osmiroid Measure and Observe Action Learning Cards	Perry	48 cards				3		1972		111	11.95
523	Project Math Activity Kit K-3, #627	BFA	84 AC TG MA tests					3	1975	34		39.00
524	Projects in Metric Measure Set 1, Int. Level	Creative T. Press	115 cards			2	3	3	1974		362	5.95
525	Putting the Metric System To Work City Planning Unit						3		1974		166	7.95
526	Slide and See Metric Measurement Rulers	MB	24 cards			2	3		1973	217		3.00
527	Using Metrics	Galt	Slide Rule			3			1971		305	
	Set 1 Relationships & Formulas		12 cards									3.75
	Set 2 Experiments & Problems		12 cards									3.75
528	Moving Toward Metrics - Insights into Consumerism	J.C. Penny	9P CA I	5	5	5			1974	366		1.25
529	Think Metric Activity Cards	W-C	6 AC large				3				362	11.50
530	The Wiley Educator, Phase Two, Metric, Staff Development program, 1 week, 35 people								1974	356		525.00
531	Metric Measurment Program	SRA	Each 9CA				4	4	1975	297		312.00
	Primary level		50 MA									
	Intermediate level		104 AC TG									
551	Metric Center, Telor	Enrich	3T 10 Rollers AC M				4		1973	195	115	65.00
552	Metric Lab, Telor	Enrich	More									110.00
553	Metric Survival Kit	Enrich	M only	4								7.95
554	Teachers Manual w/dup. masters	Enrich					3	3				25.00
555	Telor rollers (10 titles)	Enrich	1 roller				4					3.95
556	Telor device	Enrich	1 box				4					4.00

No.	MASTERS AND TRANSPARENCIES	Ident.	Type	T	S/A	J	I		Date	Pub.	Sup.	Cost
601	English and Metric Measure	3M				3				346		1.75
	Printed Originals											
602A	Going Metric Box A (1-3)	Sherrill	40 MA					3	1974	11		7.50
	Box B (3-5)		40 MA				3		1974			9.00
	Box C (5-6)		40 MA				3		1974			9.00
602B	Learning The Metric System	Continental						4	1975	377		
	Grade 1		24 MA									3.95
	Grade 2		24 MA									3.95
	Grade 3		24 MA									3.95
602C	Let's Play Games in Metrics	NTC							1975	240		
	Level 1		32 MA					4				15.75
	Level 2		32 MA				4					set of 3
	Level 3		32 MA			4	4					
603A	Measurement (Special Ed)	Continental							1959	377		
	Level 1		16 MA					3				3.95
	Level 2		16 MA				3					3.95
	Level 3		16 MA			3						3.95
603B	Metric Games and Activities	Instructo	24 MA	5		5	4	4	1975	167		4.50
604	Metric Masters Book 1 Gr 5-8	IF	30 MA				3		1973		319	4.95
	Book 2		30 MA			3			1973			4.95
605	Metric Measurement Book 1	Hayes	18 MA				4		1974	152		2.50
	Book 2		18 MA			3			1974			2.50
606	Metric System Book 1 Gr 1-2	Rabenau	28 MA					3	1874		232	3.75
	Book 2 Gr 3-4		28 MA				3		1974			3.75
	Book 3 Gr 5-6		28 MA				3		1974			3.75
608	Metric System Transparency Set	Math Master	80 TR	5		5				198		332.95
609	Metric System Transparency Set	Great Ideas	46 TR	5		5	4	4		138		14.50
610	Metrication Masters	Holt	50 MA		5	5			1974	156		19.98
611	Practice In	Instructor										
	1. Measuring with Metrics (1-4)		20 MA					4	1974	168	319	3.95
	2. The Metric System (3-6)		20 MA				4		1974			3.95
612	Primary Metrics Grades 1-3	IF	28 MA					5	1974		208	4.95
613	Solving Math Mysteries Book 1	Englebrecht	30 MA						1974	345		3.50
	Book 2		30 MA						1974			3.50
	Book 3		40 MA						1974			3.50

No.	Masters and Transparencies	Ident.	Type	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
614	Think Metric	W-C	18 MA			3	3	3	1974	352	319	3.95
615	Understanding The Metric System (4-6)	VMI	12 TR 14 MA			3	4		1974	345	208, 319	6.95
616	Values Measured in the Metric System (7-9)	VMI	12 TR 14 MA			3			1974	345	208, 319	6.95
617	Working with Color Rods in Metric Measurement	Cech						5	1974	240	362	13.75 Set
	Book 1 Length		18 MA									
	Book 2 Area		29 MA									
	Book 3 Volume		16 MA									
618	Metric Duplicating Books	MEA	Each 24 MA				3	3	1974	226		
	A13 Beginning Metrics (1-3)											3.75
	A14 Elementary Metrics (4)											3.75
	A15 Developmental Metrics (5)											3.75
	A16 Intermediate Metrics (6)											3.75
	A17 Learning Metrics (7)											3.75
	A18 Metrics We Use (8)											

	EQUIPMENT - LINEAR - AREA	Ident.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
	Calipers										
701	Bow, 15 cm metal, 0-28 cm	English			3					45	2.80
702	Bow, Metric, 0-70 mm				3	4			81		0.45
703	Feeler Gauge, 13 blades, 0.05 - 1.0 mm	Rabon	3		4					45	6.80
704	Vernier, wooden model, color coded, 0-80 cm					3			204	45	9.10
705	Vernier, wooden demo, 0-50 cm, 0-20 in.	Maplewood				5				174	7.50
706	Depth Gauge, orange demo, 0-30 cm	Invicta				5				74	3.75
707	Bow, 0-75 cm	Invicta					5			74	4.50
708	Diameter Gauge, 2-15 cm	Invicta			5	5	5			74	2.95
709	Feeler Gauge, blue plastic demo, 1-16.5 mm	Osmiroid			5	5	5			111	3.95
710	Diameter Gauge, blue plastic demo, 0-15 cm	Osmiroid			5	5	5			111	3.40
711	Depth Gauge, blue plastic demo, 0-30 cm	Osmiroid			5	5	5			111	9.95

No.	Equipment - Linear - Area	Ident.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
712	Graduated, Blue plastic, 25 cm	Osmiroid			5	5	5			111	9.95
713	Bow, blue plastic demo, 0-36 cm	Osmiroid			5	5	5			111	5.75
714	Centimeterpede	A-W				5	5		11		
715	Clinometer, blue plastic demo	Osmiroid			5	5				111	11.95
	Compasses										
716	Metric Circle Master				3				112		0.78
717	Metric safety ruler type, no point	Triman			5					78	1.50
	Grids										
718	Graph paper, 4 styles, 500 sheet pkg.	M-Master	5	5	5	5	5		198		4.85
719	Metric "Slim Jim" Slate	B & T			3	3	3		33	174	1.95
720	Graph paper, 50 sheets, 1 cm or 5 mm	Creative P			4	4	5			74	1.10
721	Paper Roll, cm grid, 76 cm x 92 m	Creative P	3							74	16.50
722	Transparent, 1 cm	Creative P			3	3	3			74	4.25
	Height Measures										
723	Upright plastic				3	3	3			74	13.50
724	Yellow plastic				2	2	2			111	1.95
725A	Wall, wooden				2	2	2		204	45	14.80
725B	Paper				2	2	2				4.50
726	Metric Training Kit - ruler, protractor, triangles				5	5			317	288	1.62
	Metre Sticks										
727	Wood, 100 cm, mm	Westcott			5	5	5			232	1.10
728	Flexible Plastic	Ideal			5	5	5		161		2.25
729	Flexible white plastic, 100 cm only	Taskmaster			4	4	4			188	1.25
730	Wood, 100 cm, dm	LLS			5				188		.55
731	Aluminuum, dual	Sears	5	5	5				303		1.50
732	Wood, graduated in cm & dm, 100 cm, 1 000 mm				5					45	2.90
733	Heavy plastic, color coded, set of 5 different	Metric Aid				5	4			45	13.80

No.	Equipment - Linear - Area	Ident.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
734	Square, wood, color coded	Metric-Aid					4			45	4.40
735	Flexible plastic, set of 3, red, color coded	Metric-Aid					4			45	4.70
736	Wood, demo, color coded	Ideal	5		5	5	5		161	174	2.50
737	Flexible plastic, cm only white						5			75	1.20
738A	Folding, wood, metal joints	Holland			5					45	4.70
738B	Triangular dm, cm, mm								247		2.95
738C	Centipede cm								247		2.95
	Micrometers										
739	Metric, metal, 0-25 mm	Atlas			5	4				305	7.00
740	Metric, metal, 0-50 mm	National			5	4	3			74	6.95
741	Metric, blue plastic demo	Osmiroid				3				111	10.95
742	Relationshapes - Metric	A-W					3		11		39.90
743	Rol-ruler, metric with case, drafting tool				3				280		7.70
744	Map Measurer, metric & English	Germany			5					45	7.40
745	Map Measurer and Compass				5	4				75	4.95
	Rulers										
746	20 cm, mm, plastic, chart	R-Beloit		5		4			276	48	0.20
747	30 cm, dm, mm, blue & white plastic, reverse alternate color cm	EdMediaTec			4	4			99		0.20
748	30 cm, mm, chart, white plastic	Sterling	5		4	4			317		0.25
749	150 mm, plastic, chart on reverse SR31-0699-0	IBM		5					169		
750	Heavy cardboard, 25 cm, 250 mm	Math Group	2						197		0.06
751	30 cm, mm, flexible white plastic, reverse cm only	England				3				185	0.38
752	20 cm, mm, plastic, chart	Ideal	5	5					161		0.15
753	25 cm only, white plastic	Taskmaster					4			188	0.90
754	30 cm, 12 in. plastic	Sterling	4	4	4						0.10
755	30 cm, wooden, cm, dm, mm	Enrich		4	4	4	4			362	0.43
756	50 cm, wooden	S-Welch		5	5				288		0.81
757	30 cm, plastic, white	BSI				3				45	0.49

No.	Equipment - Linear - Area	Ident.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
758	30 cm, Junior, white plastic	Metric-Aid					3			45	0.38
759	25 cm, alternate color, wooden						4			45	0.28
760	15 cm, 6 in., plastic, geometric formulas	USAF		3					338		
761	30 cm, mm, mm grid, clear plastic	C-Thru	5	5	5				56		0.50
762	Wood, metal edge	ETA			5	4	4		111		0.20
763	25 cm, 250 mm, white plastic	Creat. Pub			4	4			74		0.15
764	Wooden, 3 dm, cm, mm, drilled for balance use	LLS			3	4	5		188		0.20
765	Modern Math 4-way, 30 cm, mm, 12 in.	Sterling		3						74	0.35
766	25 cm, no mm, blue & white alternate	Creat. Pub					5			74	0.12
767	1 dm, wooden mm	LLS				4	5		188		0.55
768A	30 cm or 20 cm, wooden	Acme	5		3						
768B	30 cm, wooden, varied	Westcott	5		3						
768C	30 cm, blue-green	Metric-Aid	4							45	0.49
769	Shop Tool Kit	Stanley			3				316		41.25
	Tapes										
770	60 m				5	4				37	29.95
771	30 m, steel, wind-up				4					37	8.99
772	1.5 m plastic on linear	Enrich				5	5		115		0.45
773	1 m, fiberglass	Woolworth		4	4					374	0.49
774	1 m, fibergalss, spring, sewing	Woolworth		4	3					374	0.69
775	150 cm, plastic on linen, color coded	Enrich	5	5	5	5	5			362	0.45
776	Steel, rewind, 3 m	ROE			5	5	3			74	1.50
777	Steel, 10 m	ROE				5	5			74	4.95
778	2 m, metal, adhesive back			4	3					37	2.50
779	1 m, heavy paper		1						305		0.20
780	Adhesive, metric figured, 35 m roll, 50 cm repeat		2						74		2.50
781A	Adhesive, metric, alternate color 35 m roll		2						74		3.50
781B	1.5 m fiberglass	O'Haus	5	5	5	5	5			384	0.50
782	Book of metric strips		2							188	4.99
783	Adhesive, metric with conversions, roll of 40		2							167	3.95

No.	Equipment - Linear - Area	Ident.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
784A	Paper, metric, no numbers, 1 m, pkg of 100	Philograph	3		3	3	3			185	1.85
784B	Paper, metric, no numbers, adhesive, cm & dm marked on continuous roll	Metricator	3		4	4	4		368		
785	1.5 m								161		0.45
786	Steel, 3m, dual marking	Sears							303		4.95
787	Cardboard cm strip set					2	2			11	1.65
	Trundle Wheels										
788	Metric, gray plastic	Invicta			5	5	5			174	6.95
789	Metric, Wooden	ETA					3			111	9.95
790	Metric, Wooden	O'Haus					4		247		10.95
	EQUIPMENT - MASS - WEIGHT										
	Scales										
801	Balance, Student Model	O'Haus	5	5	5	5	5		247	185	25.00
802	Balance, heavy metal	Metric-Aid	4		5	5	5			45	19.40
803	Beam	Salter	3		4					45	21.70
804	Beam	Taskmaster	3		3					195	12.90
805	Dial, Compact	Salter	3		3	3	3			45	18.90
806	Dial, plastic pan	Waymaster	3		3	3	3			74	19.95
807	Gram, postal type	Hamilton	4		4	4				305	7.25
808	Kit (Weight & Measuring) includes tiny balance scales					4				232	1.90
809	Math balance with pans	Invicta			5	4	5			75	9.50
810	One-Piece plastic, adjustable fulcrum, 250 g	Dr. Oertka			3	3				74	18.75
811	One-Piece plastic, adjustable fulcrum, 125 g	Dr. Oertka			3	3				111	6.50
812	One-Piece plastic, adjustable fulcrum, 125 g	Gourmet			3	3				45	3.80
813	Personal	Borg	5		5	5	5			185	11.86

No.	Equipment - Mass - Weight	Ident.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
814	Personal	Newport	5		5	5	5			37	8.95
815	Personal		5		5	5	5			208	15.49
816	Personal	Metric-Aid	5		5	5	5			45	15.90
817	Personal "Think Metric" dual kg and lb.				3					74	10.95
818	Personal		5		5	5	5			128	12.98
819	Simple, pan and pail, wooden						5			188	19.50
820	Simple, yellow plastic	Invicta	5			4	5			74	6.95
821	Simple, wooden, bucket	Metric-Aid					5			45	17.60
822	Simple, wooden	Metric-Aid					4			45	15.80
823	Simple, green plastic	ASCO					4			319	13.50
824	Simple, grey plastic	Invicta					4			111	8.35
825	Simple, wooden, first balance	SEE					3		305		15.00
826	Simple, plastic, pointer	English					4			218	15.95
827A	Spring, 2 kg	O'Haus	5	5	4	4				384	2.50
827B	Spring, Newtons	O'Haus			4				247	288	2.50
828	Spring, Newtons	Abbey			4					195	1.95
829	Spring, 250 grams	O'Haus	5	5						288	2.50
830	Spring, Newton demo	O'Haus	5	5						288	12.50
	Weights										
831	Plastic, foam, 1 g, set of 100					3	3			188	6.75
832	Plastic, stacking	Invicta	5							319	4.95
833	Plastic, stacking	Philogr.	5							185	3.05
834	Plastic, stacking, set of 50	English	5							45	4.90
835	Plastic, stacking, 32 pieces	Enrich	5							174	4.25
836	Plastic, stacking, set of 80		5							305	6.35
837	Metal, heavy, 9 on board	Metric-Aids	5			5	5			45	10.40
838	Metal, brass, grad.	Damon	5		5	5	5			267	6.20
839	Metal, brass, grad.					5				111	12.50
840	Metal, brass, grad.	O'Haus	5	5	5					185	40.00
841	Bananced Set (plastic)	Philogr.	5		5	5				218	4.30

No.	Equipment - Mass - Weight	Ident.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
842	Metal, brass, set of 8		5		4					74	4.75
843	Metal, iron, set of 7, not balanced		5			5	5			74	10.95
	EQUIPMENT - LIQUID - VOLUME										
	Beakers										
851	Aluminum with handles, 5 asst., 10 ml-1 l					5	5			45	10.80
852	Plastic, 4 clear with handles		5				4			45	7.40
853	Plastic, 5, transparent				5					100	8.00
854	Plastic, clear, overflow slot						2			45	4.60
855	Plastic, 5 nesting, graduated	Metric-Aid	5		5	5	5			45	6.60
856	Plastic, 7 nesting	La Pine			5	5	5			185	6.95
857	Plastic, 3, marked	Damon	5				5		81		3.50
858A	Steel, 7 mesting		5		5	5	5			185	14.68
858B	Plastic, 5 nesting graduated	O'Haus				5	5		247		9.95
	Cubic dm - litre										
859	Graduated, grid bottom, clear plastic	LLS	5	5	5	5				188	3.50
860	Graduated, clear plastic, grid bottom	Enrich	5	5	5	5			115		3.40
861	Graduated, clear plastic	Metric-Aid	3	3	3	3				45	3.40
862	Cubic Measures, 4 asst. sizes, plastic	Early Sta.				5				45	8.80
	Cylinders										
863	Graduated plastic, 50 cc		5		5	5	5			232	0.49
864A	Graduated plastic, 100 cc		5		5	5	5			232	0.59
864B	Graduated glass, set of 6, 25 ml-1 000 ml				5	5					23.95
	Displacement Vessel										
865	White bucket, overflow spout	Taskmaster					5			195	3.10

No.	Equipment - Liquid - Volume	Ident.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
866	Integral, clear plastic, 2 compartments				5	5				144	7.25
	Household Measuring Cup										
867	250 ml, plastic with handle	Foley			5	5	5		123	35	1.00
868	250 ml, plastic	LustroWare									0.49
869	Wonder Cup, metric, 250 ml			5	4	4	4			216	0.60
870	Wonder Cup, metric, 500 ml			5	4					216	1.00
871	250 ml, Pyrex	Pyrex		5	5	5	5			366	0.89
872A	500 ml, Pyrex	Pyrex		5	5	5	5			366	1.19
872B	1 000 ml, Pyrex	Pyrex		5	5	5	5			366	1.49
872C	250, 125, 80, 60 ml Stainless	Foley		5	5	5	5			366	4.49
873A	Household Measuring Spoon Set, 3, plastic	Damon	5		3	5	5		81		1.20
873B	Household Measuring Spoon Set, 4, stainless	Foley	5		5	5	5			Local	2.00
873C	Household Measuring Spoon Set, 4, plastic		3	3	3	3	3		274		0.75
	Volume Set										
874	Clear plastic, 4, all one litre									45	12.40
875	5, all one litre	Invicta				4	4			74	8.50
	EQUIPMENT - MONEY, TIME										
	MONEY										
886	Play Coins						4			74	2.25
887	Play Bills						4			74	2.25
888	Cash Box	Sterling					3		317	74	3.00
	TIME										
891	Clock face, transparent vinyl	Mr. Math	4							75	2.95
892	Clock face, 35 cm, 24 hr.	Metric-Aid							204	45	11.30
893	Clock face, 35 cm, "Judy"						4			174	5.50
894	Clock face, mini, "Judy"						4			174	12/5.50

No.	EQUIPMENT - CUBES, RODS, BLOCKS	Ident.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
	Cubes										
901	Centicube bases (set of 10)				3	3	3			218	12.00
902	cm, plastic, 1000				3	3	3			200	13.90
903	cm, plastic, 1020, 1 gram		5	5	5	5	5			74	18.95
904	cm, plastic, 1000, 1 gram (+ 100 supercubes)		5	5	5	5	5			37	21.95
905	cm, plastic corners, 200				3	3				37	6.50
906	cm, Cube-O-Grams		5	5	5	5	5		247		27.50
907	dm, cardboard box		5	5	5	5			37		0.25
908	Meter-model				5	5	5			45	9.90
	Rods										
909	Cuisenaire, classroom kit, 24 boxes + guide		5			5	5		78		74.95
910	Cuisenaire, supplemental kit, 6 boxes								78		18.75
911	Cuisenaire, white rods, cc models, 1000								78		12.50
912	Metricrods Kit, 1 m, 10 dm, 10 cm						5		138		27.50
913	Numerods Set						5		33	174	11.95
	Blocks										
914	Daigger Blocks						4			111	29.95
915	Relationshapes - Metric - attribute set						4			11	39.90
916	2 cm polished hardwood cubes (pkg of 100)		5							74	3.25
	EQUIPMENT - CONVERTERS										
931	Calculator-Metric Converter, 212 conversions, 2 memories	Sears	5	5	4	3				303	100.00
932	The Metric System Chart, cardboard, slide	Math Shop								200	0.20
933	Metre line chart, paper, in plastic envelope, Model AO-conversion, inch, cm									173	0.50
934	Metre line chart, paper, in plastic envelope	I M	5							173	0.50

No.	Equipment - Conversions	Indent.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
935	Conversion factors, plastic pocket list	IBM							169		
936	Metric conversion factor booklet with slide converter, "Conversions factors with Metric Calculator"	N. Tazel						1972		200	0.40
937	Converter, plastic slide rule	Air Force	5								
938	Metric Conversion Slide Rules, high quality slide, plastic case	ASTM	5	5	5					27	4.00
939	Converter, standard	Polymetric							265		3.50
940	Converter, Metricube	Polymetric	3						265		6.25
941	Converter, Consumers	Polymetric							265		3.50
942	Converter, U.S. Metric measurement	Bennett						1973	43		
943	"All You Need to Know About Metric" converter, heavy cardboard	Izzi						1973		309	0.50
944	Metrics Made Easy	SFUSD							373		1.00
945	Metric Converter, pocket slide rule	Sterling							317		
946	Converter, metric slide rule	Sterling							317		
947	Converter, metric, engineers slide rule	Sterling							317		
948	Converter, English-Metric, cardboard slide type (plastic, same information, more expensive)	U. Carbide						1972	335		25/15.00
949	Converter, metric-inch	Stanley			5				316		0.60
950	Cook'n Sew, English-metric converter, heavy cardboard model (also plastic model)	U. Carbide						1972	335		25/15.00
951	Dial-a-Dish	Rowsey								282	1.75
952	E-Z Metricalculator, cardboard slide rule for Engineers and "Kitcheneers"	Rowsey								282	1.50
953	Fraction Dial, decimal and metric, cardboard	Math Shop			4					200	0.10
954	Converter, Metric and Fraction Dial	Crabtree						1970	72		1.50
	(NOTE: So little conversion is included in our program, we cannot fairly evaluate most of these items.)										

No.	EQUIPMENT - TEMPERATURE	Ident.	T	S/A	J	I	P	Date	Pub.	Sup.	Cost
	Celsius Thermometers										
986	Cardboard demo, C only	Ideal			3	3	3		161		1.50
987	Cardboard demo, large, C & F scales		2							174	7.50
988	Classroom, wood, good scale, one side	Tolni			5	5	5			45	2.20
989	Clinical	Zeal			5					45	2.90
990	Indoor or outdoor, metal, C only, -50°C - 50°C	LLS			4	4	4		188		
991	Cookery	Brennan			5					45	11.50
992	Student, C scale only, one side only	Ideal	5		5	5	5		161		0.40
993	Student, C scale				4	4	4				0.50

SOURCES (Number in parenthesis indicates late addition.)

1. ACI
   35 West 45 Street
   New York, New York 10036

2. AIT/NIT
   Box A
   Bloomington, Indiana 47401

3. A/V Instruction Systems
   P.O. Box 191
   Somers, Connecticut 06071

4. Aakron Rule Corporation
   59 Hoag Avenue
   Akron, New York 14001

5. Aardvark Media, Inc.
   1200 Mt. Diablo Blvd.
   Walnut Creek, California 94596

6. Abbey Books
   P.O. Box 266
   Somers, New York 10589

7. Acme Ruler Company Limited
   P.O. Box 239
   Mount Forest, Ontario, Canada NOG 210

8. Acme United Corporation
   100 Hicks Street
   Bridgeport, Connecticut 06609

9. Action Math Associates
   1358 Dalton Drive
   Eugene, Oregon 97404

10. Activity Resources Co., Inc.
    P.O. Box 4875
    Hayward, California 94545

11. Addison Wesley Publishing Co., Inc.
    9 Dunwoody Park
    Suite 120
    Atlanta, Georgia 30341

12. Addressograph-Multigraph
    1834 Walden Office Square
    Schaumburg, Illinois 60172

13. Aero Educational Products
    St. Charles
    Illinois 60174

14. Aestheometry, Inc.
    Artesia
    New Mexico 88210

15. Agency for Instructional Television
    Bloomington
    Indiana

16. AIMS Instructional Media Services Inc.
    P.O. Box 1010
    Hollywood, California 90028

17. Allyn & Bacon
    470 Atlantic Avenue
    Boston, Massachusetts 02210

18. American Assoc. of School Librarians
    1201 Sixteenth Street, N.W.
    Washington, D.C. 20036

SOURCES (Number in parenthesis indicates late addition.)

19. American Book - Van Nostrand
300 Pike Street
Cincinnati, Ohio

20. American Guidance Service
Publishers' Building
Circle Pines, Minnesota 55014

21. American Home Economics Association
2010 Massachusetts Avenue, N.W.
Washington, D.C. 20036

22. American Institutes for Research (AIR)
Box 1113
Palo Alto, California 94302

23. American Library & Education Services
404 Sette Drive
Paramous, New Jersey 06752

24. American Metric Journal Publishing Co.
P.O. Drawer L
Tarazana, California 91356

25. American National Metric Council
1625 Massachusetts Avenue, N.W.
Washington, D.C. 20036

26. American National Standards Institute
1430 Broadway
New York, New York 10018

27. American Society for Testing and
Materials (ASTM)
1916 Race Street
Philadelphia, Pennsylvania 19103

28. Paul S. Amidon & Associates, Inc.
4329 Nicollet Avenue, South
Minneapolis, Minnesota 55409

29. Amsco School Publications Inc.
315 Hudson Street
New York, New York 10013
(378)

30. Archie Comic Publications, Inc.
1116 1st. Avenue
New York, New York 10021

31. Arco Publishing Company, Inc.
219 Park Avenue, South
New York, New York 10003

32. Arithmetic Teacher, The
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

33. B & T Learning Materials
Atlanta Gateway Industrial Park
5315 A Tulane Drive
Atlanta, Georgia 30336

34. BFA Educational Media
2211 Educational Media
Santa Monica, California 90404

35. BHU
23358 Hartland Street
Canoga Park, California 91307

36. Baker & Taylor Co.
P.O. Box 230
Momence, Illinois 60954

SOURCES (Number in parenthesis indicates late addition.)

37. A. Balla & Co.
P.O. Box 24200
Fort Lauderdale, Florida 33307

38. Barr Films
P.O. Box 7-C
Pasadena, California 91104

(38½)

39. Behavioral Research Laboratory
P.O. Box 577
Palo Alto, California 94302

40. Bell & Howell
Audio Visual Producations Division
7100 McCormick Road
Chicago, Illinois 60645

41. Bender School Supply
P.O. Box 128
Pollocksville, N.C. 28573

42. Benefic Press
10300 W. Roosevelt Road
Westchester, Illinois 60153

43. Charles A. Bennett Co., Inc.
237 N.E. Monroe Street
Peoria, Illinois 61614

44. Channing L. Bete Co., Inc.
45 Federal Street
Greenfield, Massachusetts 01301

45. Dick Blick Company
Metric Aids Division
P.O. Box 1267
Galesburg, Illinois 61401

46. Stanley Bowmar Co., Inc.
4 Broadway
Valhalla, New York 10595

47. Bro-Dart of Canada Ltd.
6 Edmondson Street
Brantford, Canada N3T 5M3

48. Brodhead-Garrett
P.O. Box 1037
Macon, Georgia 31202

49. Brooks/Cole Publishing Co.
540 Abrego Street
Monterey, California 93940

50. R.W. Bruce Company
1401 Mount Royal Avenue
Baltimore, Maryland 21217

51. Bureau of Business Practice
24 Rope Ferry Road
Waterford, Connecticut 06385

52. Bureau of Elementary and Secondary Education
(DHEW/OE) Director HEW
Office of Education
Washington, D.C.

53. Butterick Fashion Marketing Co.
P.O. Box 1914
Altoona, Pennsylvania 16603

54. Byrne-Barnes and Noble
105 Fifth Avenue
New York, New York 10003

55. C-6 School District
Dr. Wayne R. Drda
745 Jeffco Blvd.
Arnold, Missouri 63010

56. C-Thru Ruler Company
6 Britton Drive
Bloomfield, Connecticut 06002

57. John D. Caddy
P.O. Box 251
Canoga Park, California 91305

58. Caldwell Associates
Box 345
Hendersonville, Tennessee 37075

59. California Test Bureau
Division of McGraw-Hill Book Co.
Del Monte Research Park
Monterey, California 93940

60. Carolina School Supply Co.
P.O. Box 2185
Charlotte, N.C. 28201

61. Howard V. Caton Company
Manufacturers Agent
P.O. Box 4144
Charlotte, N.C. 28204

62. Center for Vocational Education
Product Utilization
1960 Kenney Road
Columbus, Ohio 43210

63. Central Instrument Company
900 Riverside Drive
New York, New York 10032

64. Central Scientific Company
2600 S. Kastner Avenue
Chicago, Illinois 60628
(375)

65. Charles W. Clark Co.
564 Smith Street
Farmingdale, New York 11735
(386)

66. Colonial Films, Inc.
71 Welton Street, N.W.
Atlanta, Georgia 30303

67. Compu-Data Services, Inc.
P.O. Box 471
Wayne, New Jersey 07470

68. Contemporary Ideas
P.O. Box 1703
Los Gatos, California 95030
(367, 377)

69. Cooper Group
P.O. Box 728
Apex, North Carolina 27606

70. Copp-Clark Publishing
517 Wellington Street, West
Toronto, Ontario, Canada

71. Coronet Instructional Media
65 East South Water Street
Chicago, Illinois 60601

SOURCES (Number in parenthesis indicates late addition.)

72. L. Crabtree and Sons
807 Pismo Court
San Diego, California 92109

73. Creative Activities
1880 Salem Avenue
Gilroy, California 95020

74. Creative Publications
P.O. Box 10328
Palo Alto, California 94303

75. Creative Teaching Associates
P.O. Box 293
Fresno, California 93708

76. Thomas Y. Crowell Co.
666 Fifth Avenue
New York, New York 10019

77. Crown Publishers, Inc.
419 Park Avenue, South
New York, New York 10016

78. Cuisenaire Company of America, Inc.
12 Church Street
New Rochelle, New York 10805

79. Cummings Publishing Co.
Sand Hill Road
Menlo Park, California 94025

80. DCA Educational Products
424 Valley Road
Warrington, Pennsylvania 18976

81. Damon/Educational Division
80 Wilson Way
Westwood, Massachusetts 02090

82. Davidson Films, Inc.
3701 Buchanan Street
San Francisco, California 94123

83. A.R. Davis & Company
P.O. Box 24424
San Jose, California 95154

84. John Day Company
200 Madison Avenue
New York, New York 10016

85. Delmar
P.O. Box 5087
Albany, New York 12205

86. Demco Education Corp.
Box 1488
Madison, Wisconsin 53701

87. Denoyer-Geppert Audio Visuals
5325 Ravenswood Avenue
Chicago, Illinois 60640

88. Digital Equipment Corporation
146 Main Street
Maynard, Massachusetts 01754

89. Walt Disney, 16mm Films
545 Cedar Lane
Teaneck, New Jersey 07666

SOURCES (Number in parenthesis indicates late addition.)

90. Dixie/Marathon Products
Division of American Can Company
One American Lane
Greenwich, Connecticut 06830

91. Dodd, Mead & Company
79 Madison Avenue
New York, New York 10016

92. Dolch Company
Champaign
Illinois 61820

93. Dominie Pty. Ltd.
8 Cross Street
Brookvale, Australia 2100

94. Dover Publications
180 Varick Street
New York, New York 10014

95. Dukane Corporation
Audio-Visual Division
2900 Dukane Drive
St. Charles, Illinois 60174

96. Dutch Mill
5216 Cot Des Meige Road
Montreal, Quebec, Canada

97. E.P. Dutton and Company, Inc.
201 Park Avenue, South
New York, New York 10003

98. ESP, Inc.
P.O. Drawer 5037
Jonesboro, Arkansas 72401

99. EdMediaTec Inc.
P.O. Box 230
Wilkes-Barre, Pennsylvania 18703

100. Edmund Scientific Company
Edscorp Bldg.
Barrington, New Jersey 08007

101. Education Audio Visual Inc.
Pleasantville
New York 10570

102. Education Progress Corporation
Ben R. Mangum
1328 N. Clermont Road
Durham, North Carolina 27707

103. Educational Activities
P.O. Box 392
Freeport, New York 11520

104. Educational Aids and Supplies of Tomorrow, Inc. (EAST)
P.O. Box 13375, University Station
Gainesville, Florida 32604

105. Educational And Industrial Testing Service
P.O. Box 7234
San Diego, California 92107

106. Educational Development Corporation
Imperial Educational Resources
P.O. Box 3709
Lakeland, Florida 33803
(385)

SOURCES (Number in parenthesis indicates late addition.)

107. Educational Metrics Corporation
207 Sunset Boulevard
Blacksburg, Virginia 24060

108. Educational Products, Inc.
1211 W. 22nd. Street
Oak Brook, Illinois 60521

109. Educational Progress
P.O. Box 45663
Tulsa, Oklahoma 74145

110. Educational Supply Co.
150 Brisbane Road
Downsview, Ontario, Canada

111. Educational Teaching Aids (ETA)
159 West Kinzie Street
Chicago, Illinois 60610

112. Educational Tools, Inc.
325 S. Broadway
Wichita, Kansas 67202

113. Educulture, Inc.
P.O. Box 1932
Santa Monica, California 90406

114. Encyclopedia Britannica Education Corp.
425 N. Michigan Avenue
Chicago, Illinois 60611

115. Enrich
3437 Alma Street
Palo Alto, California 94306

116. ERIC/SMEAC
Ohio State University
400 Lincoln Tower
Columbus, Ohio 43210

117. Eye Gate House
146-01 Archer Avenue
Jamaica, New York 11435

118. Fearon Publishers
Lear Siegler, Inc., Educational Div.
6 Davis Drive
Belmont, California 94022

119. Federal Reserve Bank of Minneapolis
Minneapolis, Minnesota 55480

120. Page Ficklin Publishing Company
261 Hamilton
Palo Alto, California 94301
(370, 371, 376)

121. Fisher Scientific Company
203 Fisher Bldg.
Pittsburg, Pennsylvania 15219

122. Fluoro-Plastics, Inc.
G and Venango Streets
Philadelphia, Pennsylvania 19134

123. Foley Manufacturing Co.
120-1 Foley Bldg.
Minneapolis, Minnesota 55418
(382, 386)

124. W.H. Freeman and Co.
660 Market Street
San Francisco, California 94104

SOURCES (Number in parenthesis indicates late addition.)

125. Gamco Industries, Inc.
P.O. Box 1911
Big Spring, Texas 79720

126. General Learning Corporation
3272 Peachtree Street, N.E.
Atlanta, Georgia 30305

127. General Motors Corp.
Public Relations Staff
Room 1-101, General Motors Bldg.
Detroit, Michigan 48202

128. Geyer Instructional Aids Co.
P.O. Box 7306
Fort Wayne, Indiana 46807

129. Ginn and Company
717 Miami Circle, N.E.
Atlanta, Georgia 30324

130. Anton Glaser
1237 Whitney Road
Southampton, Pennsylvania 18966

131. Global Engineering Documentation
Service, Inc.
P.O. Box 2060
Newport Beach, California 92660

132. Globe Book Company, Inc.
175 Fifth Avenue
New York, New York 10010

133. Golden Press, Inc.
1220 Mound Avenue
Racine, Wisconsin 53404

134. Goldstar
3 Parkway Center, Suite 109
Pittsburgh, Pennsylvania 15220

135. Government Bookshop
(Her Majesty's Stationery Office)
P.O. Box 569
London, England SEI 9NH

136. Gram It!
921 South 9th Street
Alhambra, California 91801

137. Graphic Calculator Company
234 James Street
Barrington, Illinois 60010

138. Great Ideas, Inc.
P.O. Box 274
Commack, New York 11725

139. Great Plains National Instructional
Television Library
Box 80669
Lincoln, Nebraska 68501

140. Grolier Educational Corp.
845 Third Avenue
New York, New York 10022

141. Growth Activity Products, Inc.
P.O. Box 637
Newton Lower Falls, Mass. 02162

142. Guidance Associates
757 Third Avenue
New York, New York 10017

SOURCES (Number in parenthesis indicates late addition.)

143. Guyer Instruction Aids, Inc.
P.O. Box 7306
Fort Wayne, Indiana 46807

144. J.L. Hammett Company
Box 4125
Lynchburg, Virginia 24502

145. Hansa House
62 Willard Avenue
St. Catharines, Ontario, Canada

146. Harcourt Brace Jovanovich Inc.
1372 Peachtree Street, N.E.
Atlanta, Georgia 30309

147. Larry Harkness Company
115 North Princeton Avenue
Villa Park, Illinois 60181

148. Harper & Row Publishing Inc.
2500 Crawford Avenue
Evanston, Illinois 60201

149. Harvey House
5 South Buckhout Street
Irvington-on-the-Hudson
New York, New York 10533

150. Hawthorn Books, Inc.
70 Fifth Avenue
New York, New York 10011

151. Hayden Book Company
50 Essex Street
Rochelle Park, New Jersey 07662

152. Hayes School Specialties Company
35 N. Main Street
Belmont, North Carolina 28012

153. D.C. Heath & Company
1705 Commerce Drive, N.W.
Atlanta, Georgia 30318

154. Herder and Herder, Inc.
232 Madison Avenue
New York, New York 10016

155. Hoffman Information Systems
4423 Arden Drive
El Monte, California 91734

156. Holt Rinehart & Winston
383 Madison Avenue
New York, New York 10017

157. Houghton-Mifflin
666 Miami Circle N.E.
Atlanta, Georgia 30324

158. Household Finance Corporation
Prudential Plaza
Chicago, Illinois 60601

159. ITT Educational Publishing
4300 West 62nd Street
Indianapolis, Indiana 46206

160. Idaho Research Foundation
University Station, Box 3367
Moscow, Idaho 83843

SOURCES (Number in parenthesis indicates late addition.)

161. Ideal School Supply Company
11000 South Lavergne Avenue
Oak Lawn, Illinois 60453

162. Imperial International Learning Corp.
P.O. Box 548
Kankakee, Illinois 60901

163. Industrial Press, Inc.
200 Madison Avenue
New York, New York 10016

164. Inquiry Audio-Visuals
1754 W. Farragut Avenue
Chicago, Illinois 60640

165. Instructional Designs Laboratory
3714 Gibbons Avenue
Baltimore, Maryland 21206

166. Instructional Materials Company, Inc.
P.O. Box 4193
Charlotte, N.C. 28204

167. Instructo Corp. - McGraw Hill
No. 1 Cedar Hollow Road
Paoli, Pennsylvania 19301

168. Instructor Publications, Inc.
P.O. Box 6108
Duluth, Minnesota 55806

169. International Business Machines (IBM)
Old Orchard Road
Armonk, New York 10504

170. International Tutors
Department A
22303 Devonshire
Chatwsorth, California 91311

171. JEM Innovations
4568 East 45th Street
Tulsa, Oklahoma 74135

172. Janus Associates
P.O. Box 96
Wethersfield, Connecticut 06109

173. Jay-Art Studios
Box 1520 M, G.P.O.
Adelaide 5001, South Australia

174. Kaplan School Supply
600 Jonestown Road
Winston-Salem, N.C. 27103

175. William Kaufmann, Inc.
One First Street
Los Altos, California

176. Keller Associates
P.O. Box 8005
Greensboro, N.C. 27410

177. J.J. Keller & Associates, Inc.
145 W. Wisconsin Avenue
Neenah, Wisconsin 54956

178. Kelm Manufacturing Company
3151 U.S. 33 North
Benton Harbor, Michigan 49022
(390)

SOURCES (Number in parenthesis indicates late addition.)

179. Kent Educational Services
P.O. Box 903
Oviedo, Florida 32765

180. Kirby Advertising Specialties
823 Chamber Drive NE
Huntsville, Alabama 35801

181. Knowledge Aid
6633 West Howard Street
Niles, Illinois 60648

182. Laidlaw Brothers
Thatcher & Madison
River Forest, Illinois 60305

183. Lakeshore Curriculum Materials
5369 W. Pico Blvd.
Los Angeles, California 90019

184. Lakeside Toys
4400 West 78th Street
Minneapolis, Minnesota

185. LaPine Scientific Company
375 Chestnut Street
Norwood, New Jersey 07648

186. Lawhead Press, Inc.
900 East State Street
Athens, Ohio 45701

187. Learning Resource Center, Inc.
10655 S.W. Greenburg Road
Portland, Oregon 97223
(380)

188. Leicestershire Leaning Systems (LLS)
Route 231, Box 335
New Gloucester, Maine 04260

189. Lerner Publications Company
241 First Avenue, North
Minneapolis, Minnesota 55401

190. Library Filmstrip Center
3033 Alama
Wichita, Kansas 67211

191. J.B. Lippincott
East Washington Square
Philadelphia, Pennsylvania 19105
(387)

192. Lyons & Carnahan
(Educational Division - Meredith Corp.
407 E. 25th. Street
Chicago, Illinois 60616

193. MIND, Inc.
1133 Avenue of the Americas
New York, New York 10036

194. MTI Corp.
11 East 26th. Street
New York, New York 10010

195. Maclean-Hunter
Learning Materials Company
481 University Avenue
Toronto, Ontario, Canada M5W 1A7

196. Martin
19450 Grand River Avenue
Detroit, Michigan 48223

197. Math Group, Inc.
5625 Girard Avenue South
Minneapolis, Minnesota 55419

198. Math-Master
P.O. Box 1911
Big Springs, Texas 79720

199. Math Media, Inc.
P.O. Box 1107
Denbury, Connecticut 06810

200. Math Shop
P.O. Box 185
Holliston, Massachusetts 01746

201. Media Materials, Inc.
2936 Remington Avenue
Baltimore, Maryland 21211

(384)
202. Charles E. Merrill Co.
1300 Alum Creek Drive
Columbus, Ohio 43216

203. Metric Advisory Board
P.O. Box 10243
The Terrace
Wellington, New Zealand

204. Metric-Aids, Ltd.
75 Horner Avenue
Toronto 530, Ontario, Canada

205. Metric Commission
320 Queen Street
Ottawa K1A OH5 Canada

206. Metric Consultants
21720 West North Avenue
Brookfield, Wisconsin 53005

207. Metric Conversion Board
18-24 Chandos Street
St. Leonards, N.S.W. 2065 Australia

208. Metric Supply International (Metric SI
1906 Main Street
Cedar Falls, Iowa 50613

209. Metric Teaching Aids
2358 Carolina Avenue
Redwood City, California 94061

210. Metrication Board
22 Kingsway
London WC2B 6LE, England

211. Metrication Institute of America
P.O. Box 236
Northfield, Illinois 60093

212. Metrics, Inc.
P.O. Box 7403
Wauwatosa, Wisconsin 53213

213. Metrix Corporation
P.O. Box 19101
Orlando, Florida 32814

(363)
214. Midwest Publications Co.
P.O. Box 129
Troy, Michigan 48084

SOURCES (Number in parenthesis indicates late addition.)

215. Miller-Brody Productions, Inc.
342 Madison Avenue
New York, New York 10017

216. Milmour Products, Inc.
8242 McCormick Blvd.
Skokie, Illinois 60076

217. Milton Bradley Co.
Springfield
Massachusetts 01101

218. Mind/Matter Corp.
P.O. Box 345
Danbury, Connecticut 06810

219. Minneapolis Public Schools
Federal Program
807 N.E. Broadway
Minneapolis, Minnesota 55413
(346)

220. Minnesota Mathematics and Science
MINNEMAST
720 Washington Ave., S.E.
Minneapolis, Minnesota 55455

221. Monroe, The Calculator Co.
550 Central Avenue
Orange, New Jersey 07051

222. Morgan Brothers School Supply
P.O. Box 2059
Asheville, N.C. 28802

223. Morrow Junior Books
William Morrow & Co.
105 Madison Avenue
New York, New York 10016

224. Moyer Vico Limited
25 Milvan Drive
Weston, Ontario, Canada M9L 1Z1

225. Multi-Media Publishing, Inc.
1601 S. Federal Blvd.
Denver, Colorado 80219

226. Mutual Education Aids
1924 Hillhurst Avenue
Los Angeles, Californis 90027

227. McCormick-Mathers Publishing Co.
450 W. 33rd Street
New York, New York 10001

228. McGraw-Hill Book Co.
Manchester Rd.
Manchester, Missouri 63011

229. McGraw-Hill Ryerson Limited
330 Progress Avenue
Scarborough, Ontario, Canada M1P 2Z5

230. Macmillan of Canada
MacLean Hunter Learning Materials
70 Bond Street
Toronto, Ontario, Canada M5B 1X3

SOURCES (Number in parenthesis indicates late addition.)

231. NBC Education Enterprises
30 Rockefeller Plaza
New York, New York 10020

232. Nasco
901 Janesville Avenue
Fort Atkinson, Wisconsin 53538

233. National Aero and Space Adm. (NASA)
Marshall Space Flight Center
Huntsville, Ala.

234. National Audio Visual Center (GSA)
Order Dept.
Washington, D.C. 20409

235. National Council of Teachers of Mathematics (NCTM)
1906 Association Drive
Reston, Virginia 22091

236. National Microfilm Association
Suite 1101
8728 Colesville Road
Silver Spring, Maryland 20910

237. National School & Industrial Corp.
14 Glenwood Avenue
Raleigh, N.C. 27602

238. National Science Foundation
1800 G Street N.W.
Washington, D.C. 20550

239. National Science Teachers Assoc.
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

240. National Textbook Company
8259 Niles Center Road
Skokie, Illinois 60076

241. National Tool, Die & Precision Machining Association
9300 Livingston Road
Washington, D.C. 20022

242. Nature Books Publishers
P.O. Box 12157
Jackson, Mississippi 39211

243. Thomas Nelson & Sons (Canada) Ltd.
81 Curlew Drive
Don Mills, Ontario, Canada M3A 2R1

Neuva - see Activity Resources Center (369)

244. Nystrom
3333 Elston Avenue
Chicago, Illinois 60618

245. Ocean View School District
7972 Warner Avenue
Huntington Beach, California 92647

246. Oddo Publishing, Inc.
201 South Second Street
P.O. Box 999
Mankato, Minnesota 56001

247. O'Haus Scale Corporation
Old Courthouse Bldg.
7 Court Street
Canfield, Ohio 44406

SOURCES (Number in parenthesis indicates late addition.)

248. Ohio Metric Measurement Center
3867 Glenwood Road
Cleveland Heights, Ohio 44121

249. Oidma
P.O. Box 3868
Centerdale, Rhode Island 02911

250. Olivetti Corporation of America
500 Park Avenue
New York, New York 10022

(383)

251. Orange County Board of Education
P.O. Box 11846
Santa Ana, California 92711

252. Oxford Book Company
Division of W.H. Sadlier, Inc.
11 Park Place
New York, New York 10007

253. Oxford Films
1136 N. Las Palmas Avenue
Los Angeles, California 90038

254. Parks and Math Company
954 Idlewood Drive
San Jose, California 95121

255. Pathescope Educational Films, Inc.
71 Weyman Avenue
New Rochelle, New York 10802

256. Pauper Press
Box 303
Two Rivers, Wisconsin 54241

257. Pawnee Publishing Company
P.O. Box 3435
Boulder, Colorado 80303

258. Pendragon House Inc.
220 University Avenue
Palo Alto California 94301

259. E. Joe Penn
4910 Carson Avenue
Indianapolis, Indiana 46227

(366)

260. Peoria Public Schools
Board of Education
3202 N. Wisconsin Avenue
Peoria, Illinois 61603

261. Perennial Education Inc.
1825 Willow Road
Northfield, Illinois 60093

(364)

262. Pickett Industries
P.O. Box 1515
Santa Barbara, California 93102

263. Pilgrim Plastic Products Co.
278 Babcock Street
Boston, Massachusetts 02215

264. Pittman Publishing Corp.
6 East 43rd Street
New York, New York 10017

265. Polymetric Services, Inc.
P.O. Box 847
Tarzana, California 91356

SOURCES (Number in parenthesis indicates late addition.)

266. Popular Science Audio Visuals
5235 Ravenswood Avenue
Chicago, Illinois 60640

267. Prentice-Hall Education Book Division
Englewood Cliffs
New Jersey 07632

268. Prindle, Weber & Schmidt, Inc.
20 Newbury Street
Boston, Massachusetts 02116

269. Products of the Behavioral Sciences
1140 Dell Avenue
Campbell, California 95008

270. G.P. Putnam's Sons
200 Madison Avenue
New York, New York 10016
(372)

271. Rand McNally & Company
School Dept.
Box 7600
Chicago, Illinois 60680

272. Random House School Division
2330 Victory Parkway
Cincinnati, Ohio 45206

273. Rapidesign, Inc.
Box 6039
Burbank, California 91510

274. Raytheon Education Company
2700 N. Richardt Avenue
Indianapolis, Indiana 46219
(379)

275. Real-T-Facs
P.O. Drawer 449
Warwick, New York 10990

276. Regal-Beloit Corp.
P.O. Box 38
South Beloit, Illinois 61080

277. Research Associates
P.O. Box 13237
Gainesville, Florida 32604

278. Research Institute of America
Mt. Kisco
New York, New York 10549

279. Roe International
217 River Avenue
Patchogue, New York 11772

280. Rol-Ruler Company
1217 Durham Road
Riegelsville, Pennsylvania 18077

281. Ronningen Metric Co.
6102 Palo Cristi
Paradise Valley, Arizona 85253

282. Rowsey Enterprises
P.O. Box 666
Friendswood, Texas 77546

283. William Sadlier, Inc.
Oxford Book Co
11 Park Place
New York, New York 10007

SOURCES (Number in parenthesis indicates late addition.)

284. Safco Manufacturing, Inc.
6500 Depot Drive, Box 7898
Waco, Texas 76710

285. St. Martin's Press
175 Fifth Avenue
New York, New York 10010

286. Sales Aids, Inc.
201 Bear Hill Road
P.O. Box 522
Waltham, Massachusetts 02154

287. Howard W. Sams & Co., Inc.
4300 West 62nd Street
Indianapolis, Indiana 46268

(373)
288. Sargent-Welch Scientific Co.
35 Stern Avenue
Springfield, New Jersey 07081

289. W.B. Saunders, Co.
West Washington Square
Philadelphia, Pennsylvania 19105

290. Roy G. Scarfo, Inc.
P.O. Box 217
Thorndale, Pennsylvania 19372

291. Schloat Productions
150 White Plains Road
Tarrytown, New York 10591

292. Scholastic Press
906 Sylvan Avenue
Englewood Cliffs, New Jersey 07632

293. Scholastic Magazines
2915 Providence Road
Charlotte, North Carolina

294. School Products Co.
312 E. 23rd Street
New York, New York 10012

295. School Specialties Company
35 N. Main Street
Belmont, North Carolina 28012

296. Science Associates, Inc.
230 E. Nassau Street
Princeton, New Jersey 08540

297. Science Research Associates
259 E. Erie Street
Chicago, Illinois 60611

298. Science Service
1719 N Street, NW
Washington, D.C. 20036

299. Jay Scott Associates
P.O. Box 4065
Memphis, Tennessee 38104

300. Scott, Foresman & Co.
1955 Montreal Road
Tucker, Georgia 30084

301. Scott Graphics, Inc.
195 Appleton Street
Holyoke, Massachusetts 01040

SOURCES (Number in parenthesis indicates late addition.)

302. Scott Resources, Inc.
Box 2121
Fort Collins, Colorado 80521

303. Sears Roebuck and Company
Contact local manager

304. See Hear Now!
49 Wellington Street, East
Toronto, Canada M5E 1C9

305. Selective Educational Equipment, Inc.
3 Bridge Street (SEE, Inc.)
Newton, Massachusetts 02195

306. Robert C. Sellers & Associates, Inc.
131 Tulip Avenue
Floral Park, New York 11001

307. Sigma Scientific, Inc.
P.O. Box 1302
Gainesville, Florida 32601

308. Singer Education & Training Products (SVE)
1345 Diversey Parkway
Chicago, Illinois 60614

309. Smallstate Company
Box 796
Warwick, Rhode Island 02888

310. Society of Automotive Engineers, Inc.
400 Commonwealth Drive
Warrendale, Pennsylvania 15096

311. Society of Manufacturing Engineers
20501 Ford Road
Dearborn, Michigan 48128

312. South African Bureau of Standards
Private Bag X191
Pretoria, South Africa

313. South-Western Publishing Co.
Cincinnati
Ohio 45227

314. Southern Illinois University
Carbondale
Illinois 62901

315. Spectrum Educational Suppliers Ltd.
9 Dohme Avenue
Toronto, Ontario
Canada

316. Stanley Tools
Advertising Services Dept.
480 Myrtle Street
New Britian, Connecticut 06050

317. Sterling Plastics
Division Borden, Inc.
253 Sheffield Street
Mountainside, New Jersey 07092

318. Sterling Publishing Company, Inc.
419 Park Avenue, South
New York, New York 10016

SOURCES (Number in parenthesis indicates late addition.)

319. Stone's Scouthern School Supply Co.
329 West Hargett Street
Raleigh, N.C. 27602

320. Stove, Ltd.
Buckingham Square
Aurora, Colorado 80010

321. Summit International Corporation
180 West 2950 South
Salt Lake City, Utah 84115

322. Sunbeam Corporation
5430 W. Roosevelt Road
Chicago, Illinois 60651

323. Swani Publishing Company
Box 248
Roscoe, Illinois 61073

324. TWS Electronics, Inc.
P.O. Box 113
South Beloit, Illinois 61080

325. Taylor Instrument Company
Arden
North Carolina 28704

326. Teach'em Inc.
625 North Michigan Avenue
Chicago, Illinois 60611

327. Teachers
P.O. Box 398-M
Manhattan Beach, California 90266

328. Teachers College Press
1234 Amsterdam Avenue
New York, New York 10027

329. Teachers Exchange of San Francisco
600 35th Avenue
San Francisco, California 94121

330. Teaching Associates, Inc.
P.O. Box 293
Fresno, California 93708

331. Things of Science
1719 N. Street NW
Washington, D.C. 20036

332. Trend Enterprises
St. Paul
Minnesota 55165

333. Troubador Press
126 Folsom Street
San Francisco, California 94105

334. Typit Mechanical Enterprises
5249 Duke Street
Alexandria, Virginia 22304

335. Union Carbide Corporation
Public Relations Department
270 Park Avenue
New York, New York 10017

336. U.S. Government Printing Office
Division of Public Documents
Washington, D.C. 20402

SOURCES (Number in parenthesis indicates late addition.)

337. U.S. Metric Association
Sugarloaf Star Route
Boulder, Colorado 80302

338. United States Air Force Educational Affairs
ATC/RSAE
Randolph AFB, Texas 78148

339. Universal Education & Visual Arts
221 Park Avenue South
New Yor, New York 10003

340. Vogel Book Company
P.O. Box 103
Bellevue, Washington 98009

341. A.C. Vroman
2085 East Foothill Boulevard
Pasadena, California 91109

342. Valliant IMC
195 Bonhomme Street
Hackensack, New Jersey

343. Viking Press
625 Madison Avenue
New York, New York 10022

344. Visual Instruction Productions
Victor Kayfetz Productions, Inc.
295 W. 4th Street (near Bank Street)
New York, New York 10014

345. Visual Materials, Inc.
Redwood City
California 94063

346. Visual Products Division - 3M Company
Box 3344, 3M Center
St. Paul, Minnesota 55101

347. J. Weston Walch, Publisher
Box 658, Main Post Office
Portland, Maine 04104

348. Henry Z. Walck
19 Union Square, West
New York, New York 10003

349. Walker Educational Book Corporation
720 Fifth Avenue
New York, New York 10019

350. Paul Wallach Metric Aids
2858 Carolina Avenue
Redwood City, California 94061

351. Wang Laboratories, Inc.
836 North Street
Tewksbury, Massachusetts 01876

352. Weber-Costello
1900 N. Narragansett Avenue
Chicago, Illinois 60639

353. West-East Bridge, Unlimited
P.O. Box 1402
Scottsdale, Arizona 85251

354. Westinghouse Learning Corp.
100 Park Avenue
New York, New York 10017

SOURCES (Number in parenthesis indicates late addition.)

355. Weybright and Tally
750 Third Avenue
New York, New York 10017

356. Wiley Learning Systems
John Wiley & Sons, Inc.
1895 Phoenix Blvd., Suite 105
Atlanta, Georgia 30349

357. Willow House Publishers
P.O. Box 129
Stockton, California 95201

358. Willowdale Media, Inc.
12 Parfield Drive
Willowdale, Ontario
Canada M2J 1B9

359. H.W. Wilson Co.
950 University Avenue
Bronx, New York 10452

(374)
360. Worth Publishers, Inc.
444 Park Avenue South
New York, New York 10016

361. Xerox Educational Division
Curriculum Programs
600 Madison Avenue
New York, New York 10022

362. Zavell Math Company
P.O. Box 36313
Los Angeles, California 90036

LATE ADDITIONS

363. Michigan State University
Science and Mathematics Teaching Center
East Lansing, Michigan 48823

364. Phi Delta Kappa
Eighth and Union, Box 789
Bloomington, Indiana 47401

365. Jesse D. Wallace
1078 East 5th Avenue
Chico, California 95926

366. J.C. Penny Company
Educational Division
1301 Avenue of the Americas
New York, New York 10019

367. David C. Cook Publishing Company
Elgin
Illinois 60120

368. Metrics, Inc.
P.O. Box 7403
Wauwatosa, Wis. 53213

369. North Carolina Enterprises
Box 9014
Greensboro, N.C.

370. Film Forum, Inc.
15910 Ventura Blvd.
Encino, California 91316

LATE ADDITIONS - NOT ALPHABETIZED

371. Filmstrip House
6633 W. Howard St.
Niles, Illinois 60648

372. Q-ED Productions
P.O. Box 1608
Burbank, California 91507

373. San Francisco Unified School District
1440 Harrison St.
San Francisco, California 94103

374. F.W. Woolworth Company
(Contact local store manager)

375. John L. Chaney Instrument Co.
Lake Geneva, Wis. 53147

376. Field Enterprises Educational Corp.
Merchandise Mart
Chicago, Illinois 60654

377. Continental Press
Elizabethtown, Pennsylvania 17022

378. Ann Arbor Publishers
P.O. Box 388
Worthington, Ohio 43085

397. Elizabeth Read
445 Harvard Tower
4815 S. Harvard
Tulsa, Oklahoma 74135

380. Lee Educational Media
P.O. Box 17052
Raleigh, N.C. 27609

381. Barron's Educational Series, Inc.
113 Crossways Park Drive
Woodbury, New York 11797

382. Follet Publishing Company
1010 W. Washington Blvd.
Chicago, Illinois 60607

383. Ontario Institute for Studies in Education
252 Bloor Street West
Toronto, Ontario, Canada M5S 1V6

384. Mel-Pat Limited
819 Henry Street
P.O. Box 830
Stoneville, N.C. 27048

385. Educational Filmstrips
1402 - 19th Steet
Huntsville, Texas 77340

386. Franklin Clay Films
P.O. Box 2213
Costa Mesa, California 92626

387. Los Angeles Unified School District
450 N. Grand Avenue
Los Angeles, California

388. Wayne-Westland Project Metric
645 N. Wayne Road
Westland, Michigan 48184

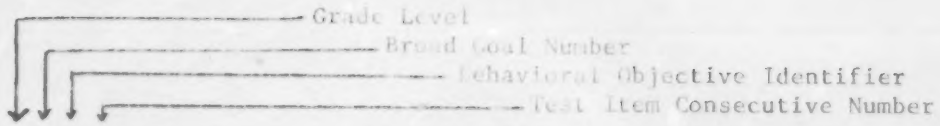
389. Bismarck Metric Project
400 Avenue E. East
Bismarck, North Dakota 58501

390. Kendall/Hunt Publishing Company
Dubuque, Iowa

Criterion-Referenced Tests by Levels

Suggestions to Testers:

The numbers preceding each test question are:



K.1.1.1

When students will be marking directly on the test papers, they may be used exactly as printed, numbered consecutively with the numbers referenced to student rolls. If mechanical checking forms (computer test sheets) are to be used to record answers, it may be preferable to block out all except the test item consecutive numbers to avoid possibility of confusion.

At Kindergarten level items will be read and sheets marked by the tester/teacher in a one-to-one setting.

At first and second levels, the tester/teacher will read each item aloud while the children mark their own papers - if circling is preferred to shading, simply make that direction. Note that the "meter" and "liter" spelling is used to avoid any conflict with our phonics - based reading program. By the end of third grade, we believe students should recognize either "-er" or "-re" as acceptable forms, whatever the American public preference may be at that time.

The number of choices considered for each item is generally two for levels K-2, three at levels 3-4, and four at levels 5-8. Some preparation for taking a test of this kind will be done as part of our test-sophistication program.

LEVEL K - METRIC PROJECT TEST

Note: The test administrator should have on his table:

A meter stick
A 30 cm ruler
A long pencil
A short pencil

K.1.1. The tester says the word below aloud. The child then says the word. Tester circles the word that indicates the child's ability to say the word. "Please say:"

1. Centimeter Yes No

K.2.1. Tester: "When you say the word 'meter', are you talking about how long something is?" Tester marks the child's answer.

2. Yes No

K.3.1. Shown a group of 2 similar objects, the student will pick up the longer one. Tester says: "Please pick up the pencil that is longer."

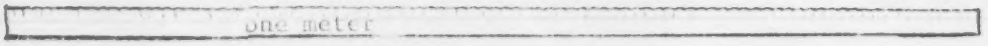
3. Yes No

K.4.1. Given a choice between the four items on the table, the child will identify which one is as long as a meter stick. Tester says, "Which one is as long as a meter stick?" Tester marks the item chosen.

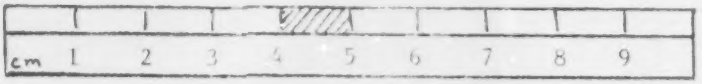
4. Meter stick Yes No
30 cm ruler
A long pencil
A short pencil

LEVEL I - METRIC PROJECT TEST (page one)

1.1.1.1 Is this a picture of a meter stick? ☺ ☹

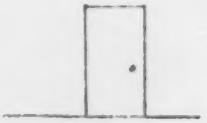


1.1.2.2 Is the shaded part of the ruler one centimeter long? ☺ ☹



1.2.1.3 Can you measure a centimeter on a meter stick? ☺ ☹

1.2.2.4 Would you use a meter stick to measure how high a door is? ☺ ☹



1.2.3.5 Would you measure milk by the meter? ☺ ☹

1.2.4.6 Would you measure your weight by kilograms? ☺ ☹

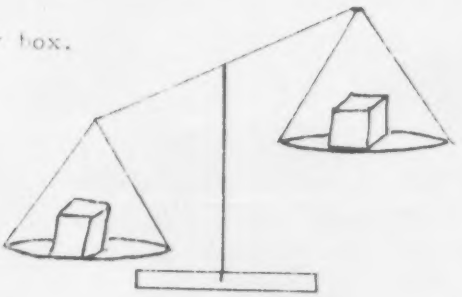
1.3.1.7 Circle the shorter pencil.

1.3.2.8 Circle the longer car.

LEVEL 1 - METRIC PROJECT TEST (page two)

1.3.3.9 Circle the larger ball.

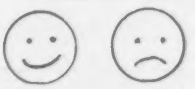
1.3.4.10 Circle the heavier box.



1.3.5.11 Circle the glass that has more milk.

1.4.1.12 Circle the one as big as one centimeter.

1.7.1.13 When you are ten years old, everyone will use the metric system for measuring.



LEVEL 2 - METRIC PROJECT TEST (page one)

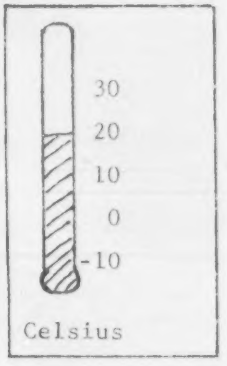
2.1.1.1 If the word is correctly spelled, shade in the ☺ : if it is not, shade in the ☹

leter ☺ ☹

2.1.2.2 If the symbol is correct, shade in the ☺, if not, shade in the ☹.

centimeter (cg) ☺ ☹

2.1.3.3 What temperature is shown by the thermometer?
Shade the correct answer.



-10°C 20°C

2.2.1.4 How many centimeters make a meter?
Shade the correct answer.

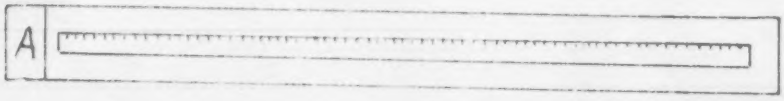
75 cm 100 cm

2.2.2.5 If the word is a metric word, shade the ☺, if not shade the ☹.

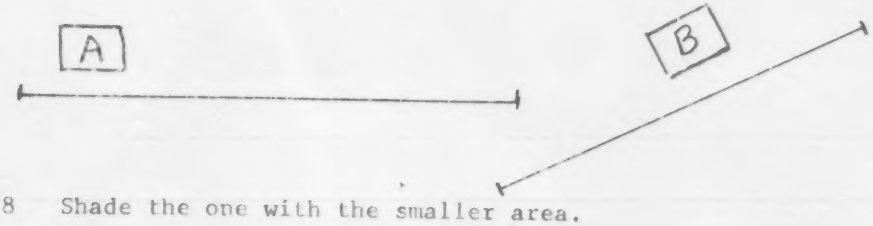
pound ☺ ☹

LEVEL 2 - METRIC PROJECT TEST (page two)

2.2.3.6 Which would you use to measure how long a table is? Shade the answer.

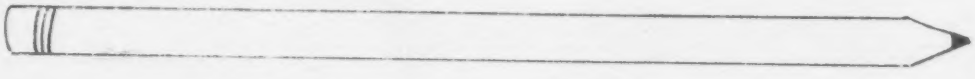


2.3.1.7 Which line is longer? Shade the answer.



2.3.2.8 Shade the one with the smaller area.

2.4.1.9 How many centimeters long is the pencil? Shade the answer.



A. 2 cm B. 14 cm

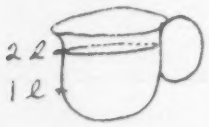
2.4.2.10 How would you measure milk? Shade the answer.

liter centimeter

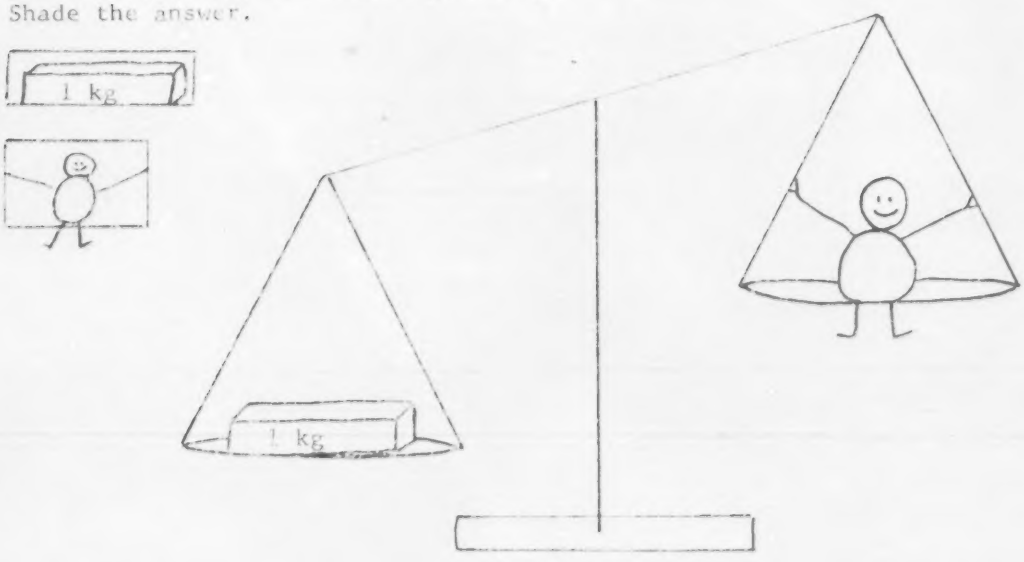
LEVEL 2 - METRIC PROJECT TEST (page three)

2.4.3.11 How much milk is in the measuring cup? Shade the answer.

1 ℓ	2 ℓ



2.4.4.12 Which is heavier, the box or the doll?
Shade the answer.



2.7.1.13 Which will most people use to measure length when you are 10 years old? Shade the answer.

yard stick	meter stick

LEVEL 3 - METRIC PROJECT TEST (page one)

3.1.1.1 The correct word for the symbol kg is:

(a) gram (b) litre (c) kilogram

3.1.2.2 Choose the largest unit in this set:

(a) metre (b) kilometre (c) centimetre

3.1.3.3 Water boils at: (a) 20°C (b) 37°C (c) 100°C

3.2.1.4 One kilometre is equal to:

(a) 10 metres (b) 100 metres (c) 1000 metres

3.3.1.5 Mark the largest area represented by these measurements:

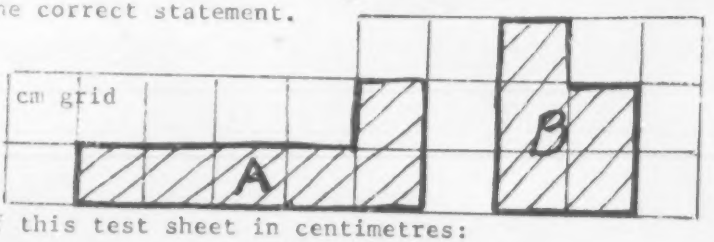
(a) 15 cm^2 (b) 5 cm^2 (c) 10 cm^2

3.3.2.6 Using the cm grid, determine which shaded figure has the larger area. Mark the correct statement.

(a) A is larger.

(b) B is larger.

(c) A equals B.



3.4.1.7 Estimate the width of this test sheet in centimetres:

(a) 10 cm (b) 20 cm (c) 30 cm

3.4.2.8 To measure a room, you would use:

(a) metres (b) centimetres (c) kilometres

3.4.3.9 The length of this page from top to bottom is about:

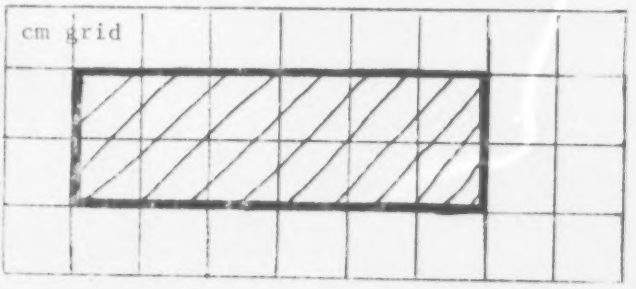
(a) 2 dm (b) 3 dm (c) 5 dm

3.4.4.10 What is the area of the shaded rectangle in cm^2?

(a) 7 cm^2

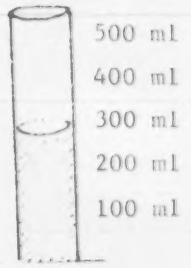
(b) 20 cm^2

(c) 12 cm^2



LEVEL 3 - METRIC PROJECT TEST (page two)

3.4.5.11 The liquid in the beaker measures about



(a) 100 ml

(b) 400 ml

(c) 300 ml

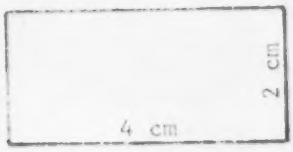
3.4.6.12 The stack of centimetre cubes has a volume of

(a) 12 cm^3

(b) 9 cm^3

(c) 16 cm^3

3.4.7.13 The perimeter of this rectangle is



(a) 10 cm

(b) 8 cm

(c) 12 cm

3.4.8.14 If on a scale your pencil exactly balances with nine cubes of one gram each, your pencil is said to weigh:

(a) 9 kilograms
(b) 9 cubic centimetres
(c) 9 grams

3.4.9.15 A student in third grade is more likely to be

(a) 5 metres tall (b) 125 centimetres tall (c) 60 centimetres tall

3.5.1.16 The sum of 37 cm and 42 cm is

(a) 79 cm (b) 79 m (c) 457 cm

3.6.1.17 Choose the line that is 3 cm long:

(a) line A

(b) line B

(c) line C

3.7.1.18 Which of these is a measuring system?

(a) the school system (b) the metric system (c) the social system

LEVEL 4 - METRIC PROJECT TEST (page one)

4.1.1.1 Which of the following means "100 times".

(a) centi (b) hecto (c) deka

4.1.2.2 Choose the correct symbol for dekalitre:

(a) kl (b) dl (c) dal

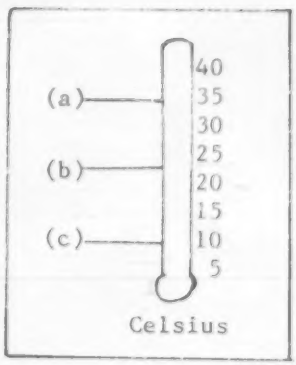
4.1.3.3 When you see a temperature reading of -10°C, you should think:

(a) very hot (b) comfortable (c) very cold

4.2.1.4 One square metre is equal to:

(a) 100 square decimetres
(b) 100 square centimetres
(c) 100 square millimetres

4.2.2.5 On the thermometer at the right, choose the letter that shows a temperature of 23°C.



4.3.1.6 Choose the smallest measure:

(a) 77 cm^2 (b) 77 dm^2 (c) 77 m^2

4.3.2.7 Choose the largest of the measures:

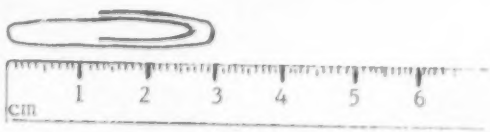
(a) 2 dm^3 (b) 5 l (c) 10 dl^3

4.4.1.8 The length of the pencil is about:

(a) 20 mm (b) 60 mm (c) 100 mm

4.4.2.9 The length of the paperclip is:

(a) 13 mm (b) 30 mm (c) 3 mm

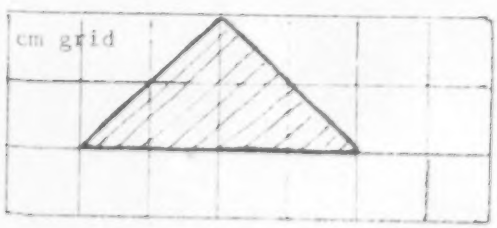


4.4.3.10 The area of the triangle is:

(a) 4 cm^2

(b) 6 cm^2

(c) 8 cm^2



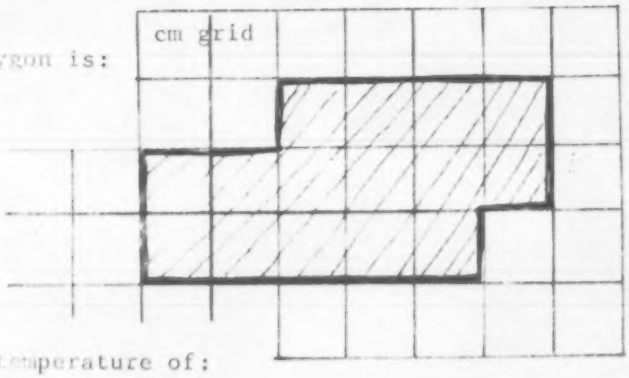
LEVEL 4 - METRIC PROJECT TEST (page two)

4.4.4.11 The perimeter of the polygon is:

(a) 9 cm

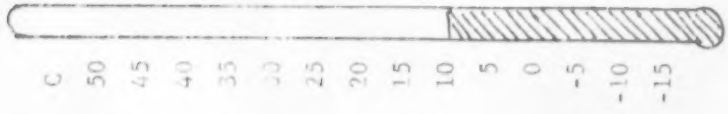
(b) 15 cm

(c) 19 cm



4.4.5.12 The thermometer shows a temperature of:

(a) 10°C (b) 20°C (c) 50°C



4.5.1.13 Find the product:

$$\begin{array}{r} 17\text{ m} \\ \times\ \ 4 \\ \hline \end{array}$$

(a) 38 m (b) 68 m (c) 21 m

4.5.2.14 5 cm is equal to:

(a) 50 mm (b) 500 mm (c) 5 000 mm

4.5.3.15 700 mm is equal to:

(a) 7 cm (b) 70 cm (c) 700 cm

4.6.1.16 George has a string 36 m long and Sara has one 57 m long. Together they can make a kite string _____ long.

(a) 93 m (b) 104 m (c) 83 m

4.7.1.17 The metric system was first adopted in 1795 in:

(a) Spain (b) U.S. (c) France

4.0.1.18 Measuring a hall in metres would be almost like measuring it in:

(a) inches (b) feet (c) yards

LEVEL 5 - METRIC PROJECT TEST (page one)

5.1.1.1 From the list of words choose one that matches the symbol kg:

(a) kilometre (b) gram (c) litre (d) kilogram

5.1.2.2 Choose the season of the year you think a temperature of 40°C might represent.

(a) spring (b) summer (c) fall (d) winter

5.2.1.3 1 kilogram is equal to:

(a) 10 g (b) 1 000 mg (c) 100 g (d) 1 000 g

5.2.2.4 1 dm^3 is equal to:

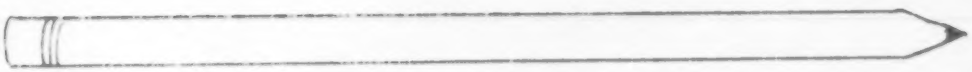
(a) 10 litres (b) 100 litres (c) 1 000 litres (d) 1 litre

5.3.1.5 Choose the largest measure:

(a) 3.7 dm^3 (b) 23.5 l (c) 4.2 kl (d) 48.3 cm^3

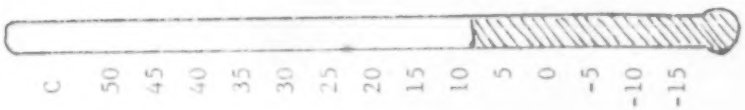
5.4.1.6 A reasonable estimate of the length of the pencil is:

(a) 14 cm (b) 14 mm (c) 1.4 m (d) 1.4 cm



5.4.2.7 This thermometer was just taken from a beaker of water. About what temperature is the water?

(a) 50°C (b) -15°C (c) 8°C (d) 25°C



5.5.1.8 The best unit to use for measuring the liquid in a teaspoon is:

(a) m^3 (b) cm^2 (c) l (d) ml

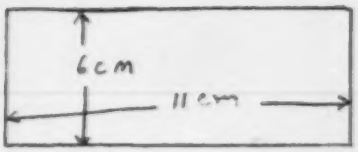
5.5.2.9 Find the difference:

$$\begin{array}{r} 4.2\ m \\ -3.6\ m \\ \hline \end{array}$$

(a) 78 m (b) 6 m (c) 7.8 m (d) 0.6 m

LEVEL 5 - METRIC PROJECT TEST (page two)

5.5.3.10 A rectangle has measurements as shown:
Find its area.



(a) 17 cm^2 (b) 5 cm^2 (c) 66 cm^2 (d) 1.7 m^2

5.5.4.11 The measurement " 3 metres 7 decimetres" may be written as:

(a) 370 dm (b) 37 m (c) 0.37 dm (d) 3.7 m

5.5.5.12 700 mm = _____ dm

(a) 7 (b) 70 (c) 700 (d) 7000

5.6.1.13 Sara has a bag of peanuts with a mass of 576 grams that she wants to share equally with her classmates. There are 32 in her class. How many grams will each student receive?

(a) 12 g (b) 21 g (c) 9g (d) 18 g

5.7.1.14 The metric system was invented by:

(a) Jacob Astor

(b) Benjamin Franklin

(c) The French Academy of Science

(d) U.S. National Mathematics Society

5.8.1.15 Choose the best statement:

(a) All metric words start with an m.

(b) Metric prefixes always come after the root word.

(c) Metric root words are written in Chinese.

(d) Metric prefixes always mean the same with any root word.

5.0.1.16 A metre is:

(a) About the same as a foot.

(b) Equal to a yard.

(c) A little more than a yard.

(d) A little less than a yard.

LEVEL 6 - METRIC PROJECT TEST (page one)

6.1.1.1 Choose the words that match the given symbol km/h:
(a) kilometres and hectares (b) kilometres per hour
(c) kilometres divided by hectometres (d) none of these

6.1.2.2 The road sign at the right means:

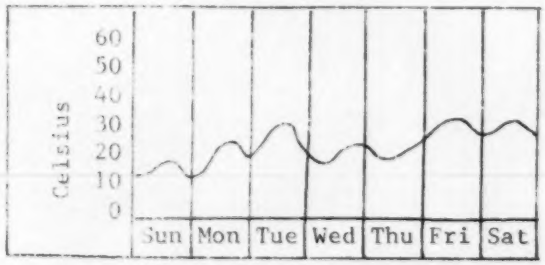
(a) The speed limit is 150 kilometres per hour.
(b) Marion weighs 150 kilograms.
(c) Marion is 150 kilometres away.
(d) The population of Marion is 150 people.

6.1.3.3 Mark the combination that "m^2" represents:

(a) 1 m x 1 m (b) 1 dm x 1 dm (c) 10 cm x 10 cm (d) 10 m x 10 m

6.1.4.4 The highest temperature on Tuesday was about:

(a) 40°C
(b) 30°C
(c) 25°C
(d) 20°C



6.2.1.5 A metric ton is equal to:

(a) 1 000 g (b) 1 000 litres (c) 1 000 mg (d) 1 000 kg

6.2.2.6 1 kilolitre is equal to:

(a) 1 000 m^2 (b) 1 000 km (c) 10 000 cm^3 (d) 1 000 litres

6.3.1.7 Choose the smallest measure:

(a) 150 g (b) 15 kg (c) 1 500 mg (d) 1.5 t

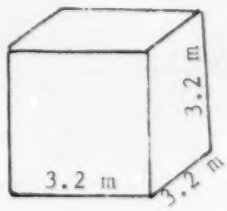
6.4.1.8 The most appropriate unit to use to express the mass of a car is:

(a) cm^3 (b) dm^3 (c) l (d) t

6.4.2.9 When water boils vigorously, a thermometer in it will show:

(a) 100°F (b) 90°C (c) 200°F (d) 100°C

6.5.1.10 Find the volume of a cube as shown:



(a) 9.6 m (b) 38.4 m (c) 10.24 m^3 (d) 32.768 m^3

LEVEL 6 - METRIC PROJECT TEST (page two)

6.5.2.11 Divide a length of 4.36 dm into four equal parts; how long is each part?

(a) 4.40 dm (b) 17.44 dm (c) 1.09 dm (d) 1.9 dm

6.5.3.12 100 square metres is equal to:

(a) 10 dm^2 (b) 10 hm^2 (c) 10 000 cm^2 (d) 1 a

6.5.4.13 A small gram scale indicates that your pen has a mass of 18 grams; this may be expressed as

(a) 0.180 kg (b) 0.018 kg (c) 1.800 kg (d) 18.00 kg

6.5.5.14 A rectangle is 1.2 m long and 4 m wide. Its area is:

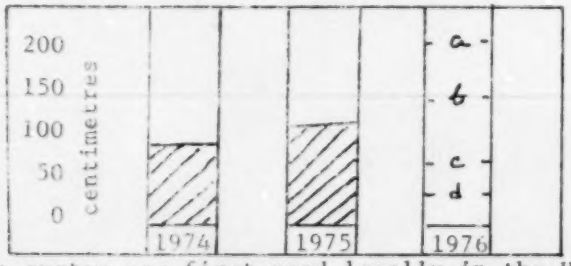
(a) 1.6 m^2 (b) 48 m^2 (c) 4.8 hm^2 (d) 4.8 m^2

6.6.1.15 Find the area of a triangle that has base 32 m and height 6 m.

(a) 192 m^2 (b) 44 m^2 (c) 96 m^2 (d) 38 m^2

6.6.2.16 The graph shows Mary's height for the last 3 years. If her height is 140 cm now, the bar for this year should end at:

(a)
(b)
(c)
(d)



6.7.1.17 The metric system was first used legally in the United States in:

(a) 1795 (b) 1830 (c) 1866 (d) 1965

6.8.1.18 Choose the statement that is true in the metric system:

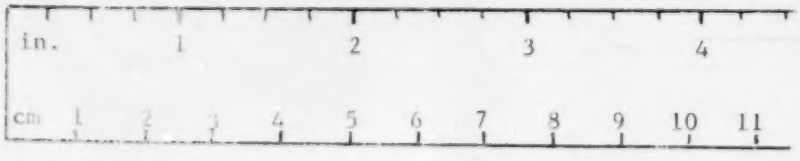
(a) Metres may be changed to decimetres by multiplying by 12.
(b) The measure "3 metres, 2 cm" can be combined into 3.02 m.
(c) Metric root words are all four-letter words. (d) A cubic centimetre is exactly equal in volume to one litre.

6.9.1.19 Road maps of France, England, and Japan will show distances in:

(a) miles (b) kilograms (c) kilometres (d) Herzogs

6.0.1.20 On the scale below, two inches is about the same as:

(a) 2 cm
(b) 5 cm
(c) 10 cm
(d) 12 cm



LEVEL 7/8 - METRIC PROJECT TEST (page one)

7/8.1.1.1 The preferred Standard International (SI) spelling for the word that matches the symbol "m" is:
(a) meter (b) metro (c) metre (d) metr

7/8.1.2.2 Choose the measure that is associated with the word Celsius:
(a) length (b) temperature (c) force (d) angle measure

7/8.1.3.3 Mark the set that is in order from largest to smallest:
(a) kilo, deka, hecto
(b) milli, centi, deka
(c) kilo, deci, milli
(d) centi, milli, deci

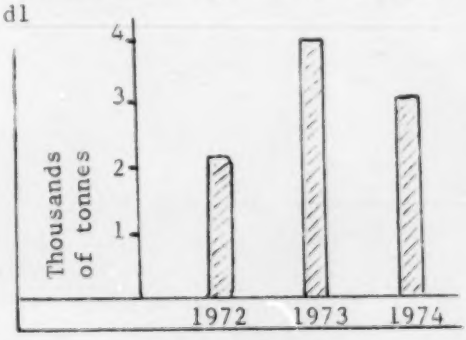
7/8.1.4.4 Mark the temperature in degrees Celsius that would be considered a fever temperature for the average person.
(a) 37°C (b) 35°C (c) 20°C (d) 40°C

7/8.1.5.5 Choose the one that is correct in symbol and form:
(a) 15 200 kgs (b) 15 200 kg. (c) 15,200 kg (d) 15 200 kg

7/8.1.6.6 When you want to say "ten times a litre," the symbol to use is
(a) kl (b) ml (c) dal (d) dl

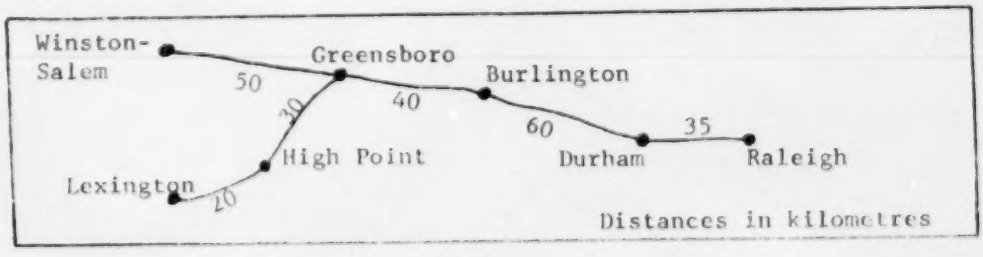
7/8.2.2.7 Using the graph below, wheat production in 1973 was about:

(a) 4 tonnes
(b) 500 tonnes
(c) 4000 tonnes
(d) 450 tonnes



7/8.2.3.8 Thirty metres is equal to:
(a) 30 cm (b) 300 km (c) 3 000 cm (d) 3 000 dm

7/8.2.4.9 Using the map below, the distance from Winston-Salem to Durham is:
(a) 150 km (b) 15 km (c) 50 km (d) 100 km



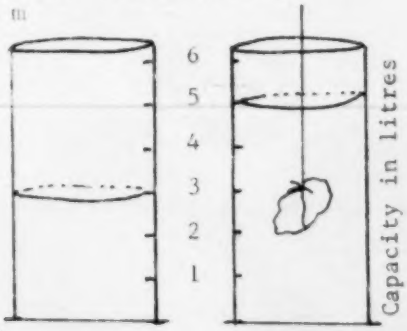
7/8.3.1.10 Choose the largest measure:
(a) 2.040 kg (b) 420 g (c) 4020 mg (d) 0.042 t

LEVEL 7/8 - METRIC PROJECT TEST (page two)

7/8.3.2.11 A softball throw half the length of a football field is about
(a) 45 m (b) 50 m (c) 60 m (d) 30 m

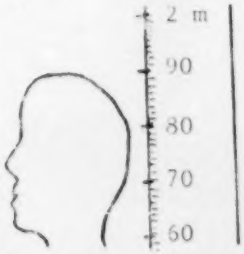
7/8.4.1.12 The pictures show a beaker of water before and after lowering a rock into it. Estimate the size of the rock:

(a) 3 dm^3
(b) 2 dm^3
(c) 4 dm^3
(d) 5 dm^3

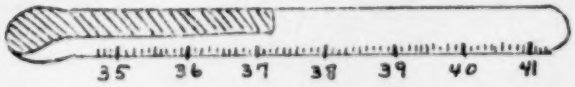


7/8.4.2.13 A student is checking his height; it is

(a) 1.9 m
(b) 90 cm
(c) 0.9 m
(d) 9 m



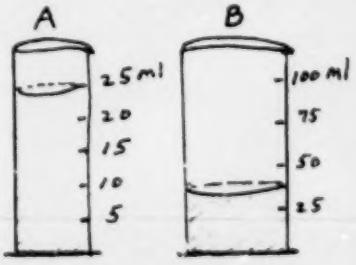
7/8.4.3.14 Jane has just taken her temperature with a fever thermometer. Her reading is:
(a) 37.2 C° (b) 38°C (c) 35°C (d) 38.2°C



7/8.4.4.15 In a laboratory experiment, a student measured a temperature change from 35.5°C to 48.0°C in a sample of water. The number of degrees change on the Celsius scale was:
(a) 3.5 (b) 6.5 (c) 12.5 (d) 90.5

7/8.4.5.16 A student measured the volumes of two liquids with graduated cylinders - A and B. He found

(a) greater volume of liquid in A.
(b) greater volume of liquid in B.
(c) the volumes were the same.
(d) none of the above.



7/8.4.6.17 A student weighed a peanut for a calorie experiment before and after burning it to measure the heat produced. The beginning weight of the nut was .75 g and the weight of the burned nut (the ash) was .20 g. What was the weight difference?
(a) 0.2 g (b) 0.5 g (c) 0.55 g (d) 0.95 g

LEVEL 7/8 - METRIC PROJECT TEST (page three)

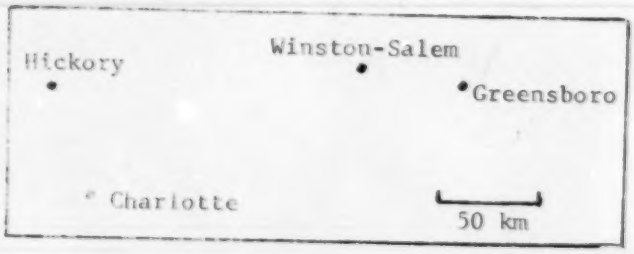
7/8.5.1.18 From Winston-Salem to Charlotte is about

(a) 50 km

(b) 150 km

(c) 100 km

(d) 90 km



7/8.5.2.19 4253 cm = _____

(a) 0.4253 hm (b) 425.3 hm (c) 42.53 hm (d) 4.253 hm

7/8.6.1.20 Using the formula X = 3Y, find X when Y = 1.2
(a) 36 m (b) 1.5 m (c) 4.2 m (d) 3.6 m

7/8.6.2.21 In the future, a person is most unlikely to need metric measurements when
(a) running in a track meet (b) following a recipe
(c) working for an industry (d) singing in a chorus

7/8.7.1.22 Which expression best describes John Quincy Adams?
(a) Hated French toast. (b) Invented the metric system.
(c) Recommended that the U.S. not go metric until England and Spain did. (d) Recommended that the U.S. go metric in 1976.

7/8.8.1.23 Choose the best statement for comparing the metric system to our customary units:
(a) All metric units are larger than our customary units.
(b) All metric units are harder to spell than our customary units.
(c) Metric prefixes show the size of the unit; customary units do not have uniform prefixes.
(d) Length, volume and weight are more easily related in our customary units.

7/8.9.1.24 Your old American-made car has a problem. You might borrow some tools from a friend if his new car was made in
(a) Italy (b) Germany (c) Japan (d) none of these

7/8.9.2.25 Advantages of using the metric system
(a) It is simpler. (b) Trade is easier. (c) Everyone uses the same system of measure. (d) All of these.

7/8.9.3.26 When all countries use the metric system, it will be easier to control
(a) drug abuse (b) air pollution (c) alcoholism (d) gambling

7/8.0.1.27 Using the equation, "1 inch = 2.54 cm," find the measure in cm of 7 inches.
(a) 17.78 cm (b) 0.36 cm (c) 12.61 cm (d) 2.47 cm